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Report

Royal Commission on the Economic Union and Development Prospects for Canada

VOLUME TWO

Canada





*Royal Commission on the Economic Union and
Development Prospects for Canada*

Report



Royal Commission on the Economic Union and Development Prospects for Canada

VOLUME TWO

Minister of Supply and Services Canada

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GROWTH AND EMPLOYMENT

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Introduction

The broad issues of economic growth and employment are central to this Commission's mandate, and they were central concerns in the hearings we conducted across Canada. Key aspects of these issues, in particular trade, the development of our human resources, and the functioning of labour markets, are considered primarily in other parts of this Report. We are concerned in this part with the roles in economic growth of the capital stock, of technology, and of the organization of economic activity. We are also concerned with the role of policy and institutions in achieving high levels of employment and general economic stability.

Economic growth is fundamental to the maintenance of our standard of living. High employment is fundamental to the economic and social welfare of the great majority of families and individuals. Given that we Commissioners held our hearings at the outset of a rather shaky recovery from a very deep and traumatic recession, it is perhaps not surprising that many of the representations to this Commission expressed more worry about employment than they did about growth. One intervenor argued that:

If there were no improvement in GNP . . . it would still be immensely important to have full employment. I think I would go so far as to say that if the GNP fell and [we] had full employment, it would be well worth the price. [We] would have a better and different kind of society.

(John Weldon, Transcript, Montreal, May 30, 1984 [vol. 1], p. 44.)

A study¹ of public opinion surveys prepared for this Commission reveals that unemployment is a major concern to far more Canadians than the number actually unemployed at any point in time. But the current high levels of unemployment are at least partly a cyclical phenomenon, and our primary concern, under the terms of our mandate, is with the longer term. Thus we

shall deal with the issue of economic growth—that is, the potential productivity of our economy—before we turn to the issue of stability and the full use of that potential. In the course of Part III of this Report, we shall also explicate our belief that there is no basic conflict between growth and high employment: that they are, in fact, complementary, rather than competing, goals.

By way of introduction to both of these broad areas, Chapter 7 reviews the economic experience of the last several decades in terms of growth, of structural adjustment in our economy, and of the major indicators of economic instability: unemployment and inflation. This chapter also discusses the growing role of government, since this growth has been one of the most important structural changes in the economy, and since the remainder of Part III will be concerned, to a substantial extent, with what government can do to promote growth and economic stability.

Chapter 8 looks first at the various factors that contribute to growth and at the question of whether growth and, in particular, growth that results from technological change is likely to be consistent with the achievement of high employment. We then consider in more detail the contributions to economic growth of capital formation, technology, and management. In the course of this discussion, we consider the desirability of relying upon more or different government action to promote capital formation and technological development.

Chapter 9 deals with industrial policy in a broad sense. We consider a wide range of factors in the organization of economic activity and ask whether there are changes that might improve Canada's economic performance. We survey Canadian views on the role of government in industrial policy, review the evolution of both federal and provincial activities to promote economic development, and present an analysis of other countries' experience with industrial policy. Finally, we suggest a framework for industrial policy in the future, a framework that emphasizes productivity and competitiveness.

Chapter 10 deals with short-term economic stability and high employment. After setting out a framework for the analysis of the macro-economic functioning of the economy, we look at the strengths and the limitations of monetary policy and fiscal policy as means of achieving stability and high employment. We then consider the contribution that adoption of an incomes policy and other changes in the wage-determination system might make to economic stability and to an improved employment performance.

Note

1. Richard Johnston, *Public Opinion and Public Policy in Canada*, vol. 35, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).



Economic Performance and Prospects

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Economic Performance and Prospects

Main Structural Developments

Key Economic Indicators

Like the economies of most other developed countries, the Canadian economy, since the Second World War, has experienced both substantial growth in output and income and major structural change. In order to identify these major trends, it is useful to abstract from cyclical fluctuations. Since the war, there have been five major cycles. In order to avoid having reference years falling variously at the peak or bottom of these cycles, the average annual growth rates of selected demographic and economic indicators shown in Tables 7-1 and 7-2 are recorded between successive cyclical peak years. The post-1981 cyclical downturn is reviewed later. To provide a comparison with earlier trends, these tables also include average data for 1927–46. These averages, however, mask key features of the period, such as the high level of unemployment and the substantial decline in real output that occurred during the Great Depression.

As Table 7-1 shows, Canada's population increased at a relatively rapid rate over the first 20 years of the post-war period. Immigration contributed significantly to this growth, but natural increase was its predominant source. Immigration slowed after 1957, and the rate of natural increase dropped sharply as the birth rate fell after the early 1960s.

In retrospect, the period from the end of the Second World War to 1973 was something of a "golden age" of economic performance. Table 7-2 records that total output and output per person employed increased at rates higher than those that are generally thought to have prevailed before the Second World War, and at rates higher than those that have prevailed since 1973. This increase in output was reflected in a strong growth in the real income of Canadians as measured by real gross national expenditure (GNE) per capita.

TABLE 7-1 Canadian Demographic Trends

	1927-46	1947-56	1957-66	1967-73	1974-81
Population Growth	(average annual per cent rate of increase)				
Total	1.3	2.7 ^a	2.2	1.4	1.2
Natural	1.2	1.9	1.8	1.0	0.8
Net immigration	0.1	0.6	0.4	0.4	0.4

Source: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Table 1-6.

Note: Growth rates are average annual compound increases from the level in the year before the period specified to the level in the final year of the period specified.

a. The entry of Newfoundland into Confederation accounted for 0.3 percentage points of the average growth rate from 1947 to 1956.

TABLE 7-2 Key Canadian Economic Indicators

	1927-46	1947-56	1957-66	1967-73	1974-81
	(average annual per cent rate of increase)				
Employment ^a	1.4	1.8	2.5	3.0	2.9
Real output ^b	3.9	5.4	4.6	5.3	3.0
Real income ^c per capita	2.2	2.6	2.4	3.9	1.7
Productivity ^d	2.1	3.5	2.1	2.3	0.1
Inflation ^e	0.2	4.4	2.0	4.4	9.7
Unemployment rate ^f	8.1	3.2	5.5	5.2	7.3

Sources: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Tables 2.6, 9.1 and 9.2; and Finance Canada, *Economic Review, April 1984* (Ottawa: Minister of Supply and Services Canada, 1984).

Note: Growth rates are average annual compound increases from the level in the year before the period specified to the level in the final year of the period specified.

a. Civilian employment: minor non-comparabilities in series occur in 1946 and 1966.

b. Real Gross National Expenditure (GNE).

c. Real GNE divided by population.

d. Real GNE per person employed.

e. As measured by Canada Price Index.

f. Minor non-comparabilities in series occur in 1946 and 1966.

Employment also grew rapidly between 1946 and 1973, and unemployment rates were generally lower than they had been before that period or than they have been since. In 1947, during the post-war adjustment period, inflation flared briefly into the double-digit range and made a similar rise at the outset of the Korean War. Generally, however, rates of price increase were low between 1946 and 1973. Even during this period of comparatively good

performance, public discussion gave considerable emphasis to the current problems: an upward creep in inflation from the mid-1950s; slow growth and relatively high unemployment in the late 1950s and early 1960s, reoccurring about 1970. In the late 1950s and early 1960s, there was much concern, just as there is today, that Canada might be facing an extended period of structural unemployment.

The period since 1973 has seen a deterioration in most aspects of performance, though the falling off has been more severe in some respects than in others. A sharp break in productivity growth appears to have occurred after 1973, and the situation may have worsened in the late 1970s.

A full and satisfactory explanation of the slow-down of productivity growth still eludes analysts. No doubt the increased degree of slack in the economy after 1973 helped to slow productivity growth. A sharp break in that growth in the oil and gas industry, reflecting both increased dependence on less productive wells and increased investment in exploration, also contributed to the decline in overall productivity, as did the impact of higher energy prices on energy-using industries. According to most analyses, however, these factors do not fully account for the decline in productivity growth from an average annual rate of 2.3 per cent, between 1967 and 1973, to virtually zero during the period from 1974 to 1981. Furthermore, investment and the resulting growth in capital stock, the age-sex composition of the labour force, and the industrial composition of output did not change in ways that would have caused any significant slow-down in productivity growth after 1973. Most analysts believe that in addition to weaker cyclical conditions and the energy shock, there was some decline in the "underlying" rate of productivity growth. This rate is presumably determined largely by the development and application of new technology.¹

The cessation of productivity growth between 1974 and 1981 contributed to a slow-down in the growth of real income per capita. Table 7-3 shows the relative significance of each of the factors that account for the growth of real income per capita. From 1947 to 1956, productivity growth was strong (3.5 per cent), but demographic and labour-force developments dampened the growth of real income per capita. The population of labour-force age (over 15 years) grew less rapidly than total population, and labour-force participation declined as many women left wartime employment. Between 1957 and 1966, rising participation rates made a small contribution to real income growth per capita, offsetting the effect of a decline in productivity growth. The 1967-73 period saw remarkably rapid growth of real income per capita: almost 4 per cent per year, on average. The proportion of the population of labour-force age increased, and participation rates continued to rise. Annual productivity growth averaged over 2 per cent. The growth of real income per capita slowed markedly from 1974 to 1981, when an increase in the population of labour-force age and higher labour-force participation rates were offset by the cessation of productivity growth.

Inflation increased sharply in Canada after 1973, although some upward trend in the inflation rate had been evident since the mid-1960s. The drastic oil-price increases of 1973 and 1979-80, imposed by the Organization of Petroleum Exporting Countries (OPEC) were, of course, the most dramatic

TABLE 7-3 Contribution of Various Factors to Real Income Growth per Capita in Canada

	1947-56	1957-66	1967-73	1974-81
	(average annual per cent growth)			
1. Changes in population of labour-force age relative to total population	-0.62	0.02	1.10	0.87
2. Changes in labour-force participation rates	-0.28	0.30	0.83	1.03
3. Changes in employment relative to labour force	-0.01	-0.03	-0.31	-0.28
4. Total changes in employment relative to population ^a	-0.91	0.29	1.62	1.62
5. Productivity	3.46	2.08	2.29	0.07
6. Real income per capita ^b	2.55	2.37	3.91	1.69

Sources: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), and calculations by the Commission.

a. Row 4 represents the combined impact of rows 1, 2, and 3.

b. Row 6 represents the combined impact of rows 1, 2, 3, and 5 (or of rows 4 and 5).

single factor in this upward trend. The rise in inflation also reflected the delayed impact of the strong demand conditions that developed in Canada and internationally in the late 1960s and early 1970s.

The average level of unemployment rose after 1973, even though employment continued to grow rapidly. However, the highest proportion of the initial increase in the unemployment rate in the 1967-73 period may be attributable to the effect of the 1971 changes in the Unemployment Insurance system on the behaviour of the unemployed and, to a lesser extent, to changes in the age-sex composition of the labour force. Inadequate growth in aggregate demand during the latter half of the 1970s and especially during the outset of the 1980s caused the cyclical component of unemployment to rise significantly.

Demographic and Labour-Force Trends

Table 7-4 presents demographic data for each of the census periods from 1921 to 1981.² The table shows a continuous decline of the death rate and a parallel increase in life expectancy for both men and women, over the entire 1921-81 period. On the other hand, both the birth rate and the fertility rate varied substantially over this period, declining throughout the 1930s and 1940s, increasing in the 1950s and 1960s, and then declining steeply to 1976. Both rates have since declined further, but at a much slower pace. Net immigration has exhibited no clear trend; Part V of our Report explores this area in some detail.

TABLE 7-4 Historical Demographic Data

Total Population														0 to 14	15 to 24	25 to 64	65+
Year	Pop. (000s)	Average			Fertility Rate per Woman	Life Expectancy at Birth		Average Annual Growth Rate ^a	% Pop.	Average Annual Growth Rate ^a	% Pop.	Average Annual Growth Rate ^a	% Pop.				
		Birth Rate ^a	Death Rate ^a	Average Immig. Rate ^a		Male	Female										
(per 1 000 pop.)																	
1921	8 788	N.A.	N.A.	1.9	3.5	N.A	N.A	2.4	34.4	0.8	17.3	1.2	43.5	2.3	4.8		
1931	10 377	25.2	11.1	2.8	3.2	60.0	62.1	0.8	31.6	2.6	18.8	1.8	44.0	3.2	5.6		
1941	11 507	21.0	9.9	-0.8	2.8	63.0	66.3	-0.3	27.8	1.0	18.7	1.7	46.8	2.9	6.7		
1951	14 009	26.1	9.5	1.3	3.5	66.3	70.8	2.9	30.3	0.0	15.3	1.9	46.6	3.5	7.8		
1961	18 238	27.7	8.2	7.0	3.8	68.4	74.2	3.8	34.0	2.0	14.3	3.1	44.1	2.5	7.6		
1971	21 568	1.7	7.5	3.6	2.2	69.3	76.4	0.3	29.6	4.4	18.6	1.6	43.8	2.3	8.1		
1976	22 997	1.3	7.4	4.5	1.8	70.2	77.5	-1.6	25.6	2.3	19.5	2.4	46.1	2.8	8.7		
1981	24 342	1.2	7.1	3.1	1.7	71.9	78.9	-1.5	22.5	0.8	19.1	2.2	48.6	3.4	9.7		

Sources: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Tables 1.6 and 1.7, and *Historical Statistics of Canada*, 2d ed. (Ottawa: Statistics Canada, 1983), pp. B1-14, B15-22, B59-74; and Finance Canada, *Economic Review, April 1984* (Ottawa: Minister of Supply and Services Canada, 1984), p. 121.

Note: N.A. = not available.

a. For preceding ten years with the exception of 1976 and 1981; these last are for the preceding five years.

TABLE 7-5 Sources of Labour-Force Growth

	1955-66	1966-73	1973-79	1979-83
	(average annual per cent rates of growth)			
Source Population				
(Both sexes, aged 15 years and over)	2.2	2.6	2.2	1.7
Net immigration	0.5	0.4	0.4	0.3
Natural increase	1.7	2.2	1.9	1.4
Participation rate	0.4	0.7	1.0	0.3
Total labour force	2.6	3.3	3.3	2.1
Employment	2.6	2.8	2.9	0.8

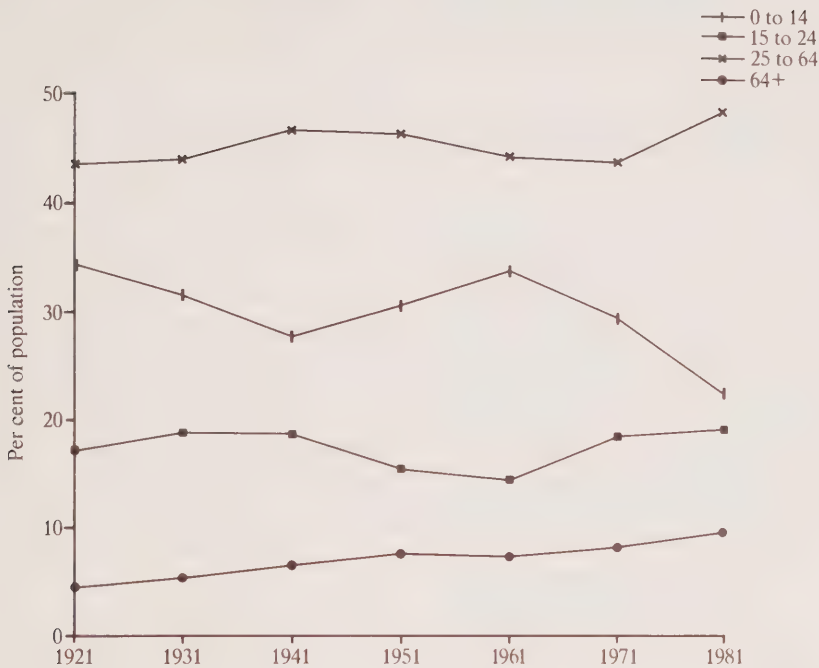
Sources: 1956-1979 data from Canada, Employment and Immigration Canada, Task Force on Labour Market Development, *Labour Market Development in the 1980s* (Ottawa: Minister of Supply and Services Canada, 1981), p. 58. Employment data from Statistics Canada, *Historical Labour Force Statistics*, Cat. No. 71-201 (Ottawa, various years). 1980-1983 data recalculated using actual net immigration and employment data from Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), CANSIM data on source population (767284), labour force (both sexes, aged 15 years and over) (767285).

Note: All calculations of net immigration's contributions to the source population assume that 60% of immigrants are 15 years of age and over, a figure in the range of recent historical experience. (See T. Samuel and B. Woloski, "The Labour Market Experiences of Canadian Immigrants", mimeo, 1984.) The age distribution of emigrants is assumed to be the same.

Population growth reached a peak annual average rate of 2.7 per cent between 1951 and 1961, and by 1961 the population share of those aged 14 or under was almost as high as it had been in 1921. Between 1961 and 1971, population growth slowed to an average annual rate of 1.7 per cent. The proportion of the population represented by those 14 years old and younger declined significantly to 29.6 per cent. Meanwhile, the maturation of the "baby-boom" generation increased the proportion of those aged 15 to 24 from 14.3 per cent to 18.6 per cent.

The average annual population-growth rate continued to decline between 1971 and 1981, to approximately 1.2 per cent. This decline was associated with a further steep contraction of the share of the aged-14 and younger group to 22.5 per cent. The proportion of the population aged 15 to 24 rose until the mid-1970s and diminished thereafter, falling to 19.1 per cent by 1981. The aging of the baby-boom cohort led to a significant increase in the share of the population aged 25 to 64, while the share of the 65-years and older group continued its upward trend. During the 1970s, the share accounted for by the young was smaller than it had ever been before, and the share accounted for by the elderly was larger; more than two Canadians in three were of working age, and this proportion also represented a record high. Figure 7-1 illustrates the effect on population shares of the maturation of the baby-boom cohort.

FIGURE 7-1 Percentage Share of Selected Age Groups, 1921-1981



Source: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Table 1-7.

As Table 7-5 shows, the Canadian labour force has grown rapidly over the past three decades. Growth was especially rapid in the late 1960s and the 1970s. It has now slowed and, according to most predictions, will slow even further. This rapid development has reflected both a very substantial increase in the source population³ and a more modest increase in the percentage of the source population that has participated in the labour force.⁴

Table 7-6 disaggregates the growth rate for the source population by age and sex. Much of the growth in the source population (and even more of the growth in the labour force) during the 1960s resulted from the maturation of the baby-boom generation. The number of 15- to 24-year-olds in the source population reached a peak of nearly 4 600 000 in 1980 and is now declining. The labour force of the near future will be aging as well as growing less rapidly.

TABLE 7-6 Source Population Growth Rates, by Age-Sex Group, Canada, 1966-83 (Actual) and 1984-85 (Projected)

Age	15-24		25-44		45-64		65 and over		Total		
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Both sexes
1966-67	5.3	4.8	1.6	1.2	2.3	3.1	1.4	3.1	2.7	2.8	2.7
1967-68	4.6	4.3	1.5	1.1	2.3	3.0	1.4	3.0	2.5	2.6	2.5
1968-69	3.9	3.6	1.5	1.2	2.3	3.0	1.8	3.2	2.4	2.5	2.5
1969-70	3.4	3.6	1.9	1.4	2.1	2.7	1.9	3.2	2.4	2.5	2.4
1970-71	2.8	3.2	2.0	1.7	1.8	2.2	2.3	3.3	2.2	2.4	2.3
1971-72	1.8	1.3	2.4	2.9	1.7	2.1	1.9	3.0	2.0	2.3	2.1
1972-73	2.0	2.0	2.5	2.6	1.7	2.0	2.1	3.0	2.1	2.3	2.2
1973-74	2.9	2.7	3.1	3.1	1.6	2.0	2.3	3.1	2.5	2.7	2.6
1974-75	2.6	2.7	2.9	3.0	1.7	2.0	2.4	3.2	2.5	2.7	2.6
1975-76	2.2	2.2	2.8	2.8	1.5	1.6	2.6	3.2	2.3	2.4	2.3
1976-77	1.5	1.5	2.6	2.8	1.4	1.4	2.8	3.4	2.0	2.2	2.1
1977-78	1.1	1.1	2.6	2.7	1.3	1.2	2.7	3.5	1.8	2.0	1.9
1978-79	0.7	0.6	2.8	3.0	1.0	0.9	3.0	3.7	1.8	1.9	1.9
1979-80	0.5	0.4	3.2	3.3	1.0	1.0	3.0	3.7	1.9	2.0	2.0
1980-81	-0.3	-0.4	3.1	3.3	1.3	1.1	2.6	3.5	1.7	1.8	1.8
1981-82	-1.0	-1.3	3.1	3.2	1.2	1.1	2.5	3.2	1.5	1.6	1.6
1982-83	-1.5	-1.8	2.8	3.0	1.2	1.2	2.3	2.8	1.3	1.4	1.4
1983-84	-2.2	-2.0	3.1	2.7	1.1	0.9	2.6	3.2	1.3	1.3	1.3
1984-85	-2.1	-2.1	2.4	2.6	0.5	0.8	2.5	3.1	0.9	1.2	1.0

Source: Economic Council of Canada. *In Short Supply: Jobs and Skills in the 1980s* (Ottawa: Minister of Supply and Services Canada, 1982), Table 4-8.
(Re-estimated for 1975-83, using Statistics Canada, *Labour Force Annual Averages, 1975-1983*, Cat. No. 71-529 (Ottawa: Minister of Supply and Services Canada, 1984), pp. 9-17.

Note: The source population, as defined by the Labour Force Survey, includes the population, aged 15 years and over, residing in Canada, with the exception of residents of Yukon and the Northwest Territories, persons living on Indian reserves, inmates of institutions, and full-time members of Canada's armed forces.

As Figure 7-2 indicates, the modest overall increase in labour-force participation is the result of a dramatic rise in the participation rate for women aged 25 and over, a moderate decline in the rate for adult males, and a slight increase in the rate for youth. Figure 7-3 shows that the net result of these changes in demography and participation rates is that adult females' share of the labour force has become much larger since the mid-1960s, and adult males' share has become significantly smaller; youth's share has changed relatively little.

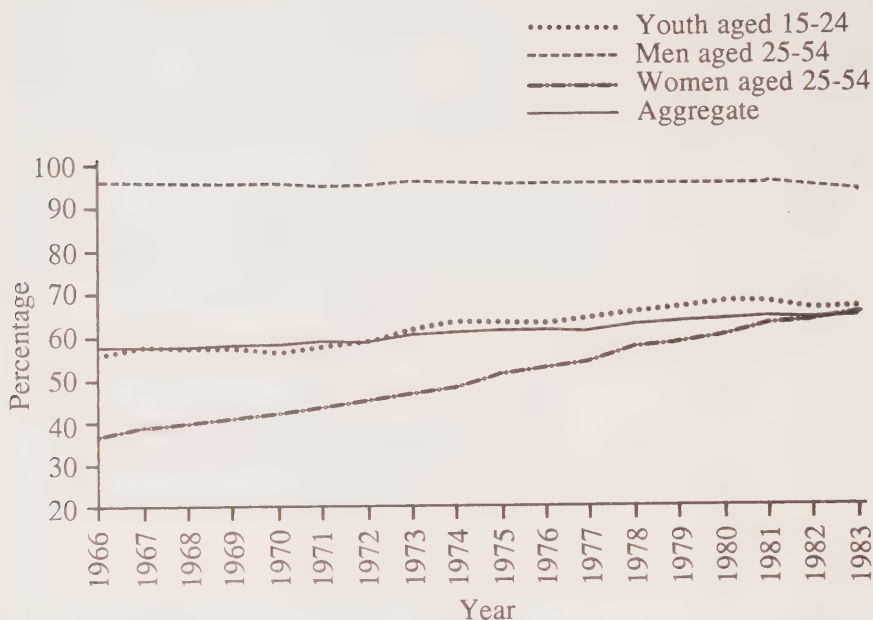
While more women of all ages have been joining Canada's work-force since 1956, the participation rate varies significantly from one female age group to another as Figure 7-4 illustrates. Participation rates by age group and the changes in such rates over time are conditioned by sociological, generational and attitudinal factors. The conditions of work and the availability of child care probably also influence female participation rates.

Not surprisingly, the dramatic nature of these major changes in the size and composition of the Canadian labour force has made them an important topic of national discussion. Other changes in the pattern of employment are scarcely less important. Employment in the service industries and, consequently, part-time and white-collar employment grew rapidly between 1956 and 1979, especially before 1973. (See Tables 7-7, 7-8, and 7-9.) The share of manufacturing in the labour market has declined since 1956, and so has the number of people employed in primary industries. While women continue to be employed principally in services, manufacturing and trade, the proportion of female employees, as Tables 7-10 and 7-11 show, has increased substantially in every industry group. Table 7-12 indicates that women and youths are far more likely than adult males to seek or to hold part-time jobs.

Another key labour-market trend is the rise in average unemployment rates, shown in Table 7-13. The increases in unemployment rates have been most pronounced for young people, particularly young men, but the unemployment rate has also increased substantially for both men and women over 25 years of age.

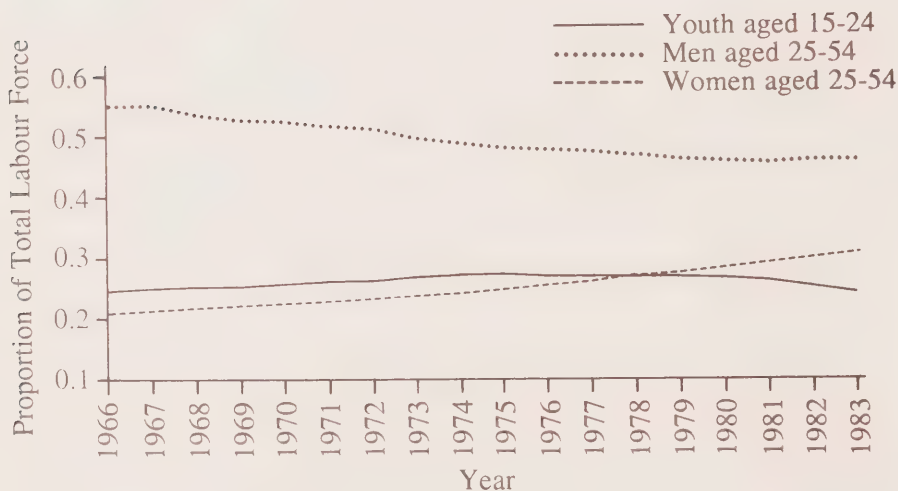
The dramatic increase in the unemployment rate from 7.5 per cent in 1980 to 11.9 per cent in 1983 is one measure of the intensity of the 1981-82 recession. Between 1980 and 1983, the total number of unemployed workers jumped by 69 per cent. The proportion of long-term unemployed, representing Canadians without work for six months or longer, almost doubled, as Table 7-14 records. While all age groups were hard hit by unemployment, men aged 25 to 44 were hardest hit because they tended to be concentrated in the industries, such as construction and manufacturing, that were most affected by the recession. (See Table 7-15.) High unemployment must be regarded as the most serious current economic problem. It will take a strong and sustained recovery to reduce the unemployment rate to its pre-recession level. Even if we achieve such a recovery, the problem of structural unemployment will still remain. The increase in unemployment in Canada over the two decades that preceded the recent recession can be attributed largely to structural factors such as changes in demography and social legislation. The demographic change that tended to raise the unemployment rate was the shift in the composition of the labour force towards young and female workers,

FIGURE 7-2 Participation Rates among Certain Demographic Groups, 1966-1983



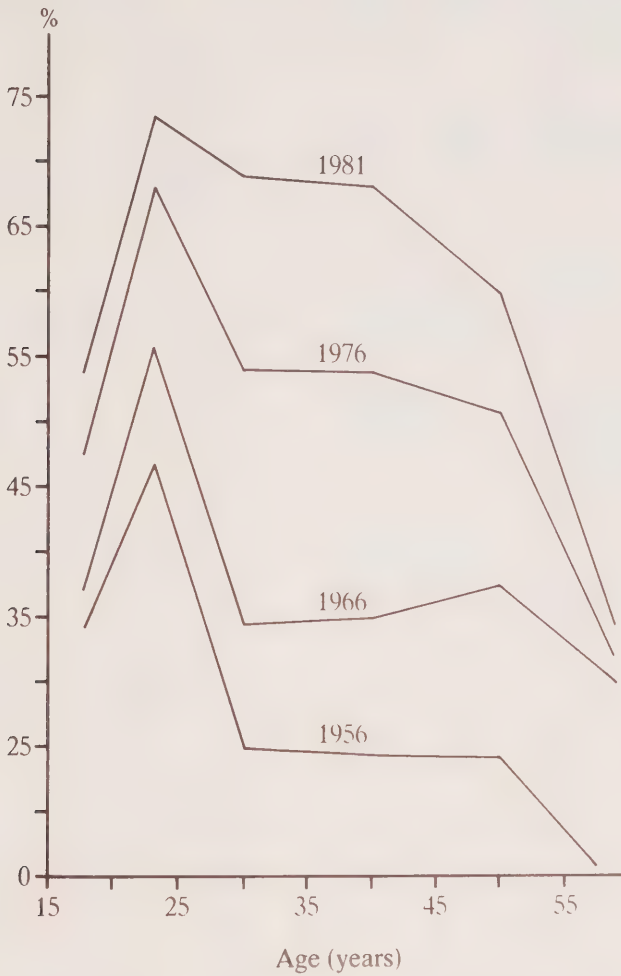
Source: Statistics Canada, *Historical Labour Force Statistics-Actual Data, Seasonal Factors, Seasonally Adjusted Data, 1983* (Ottawa: Minister of Supply and Services Canada, 1984).

FIGURE 7-3 Labour Force Composition by Demographic Groups, 1966-1983



Source: Statistics Canada, *Historical Labour Force Statistics-Actual Data, Seasonal Factors, Seasonally Adjusted Data, 1983* (Ottawa: Minister of Supply and Services Canada, 1984).

FIGURE 7-4 Female Participation Rates by Age, Canada



Source: David K. Foot, “The Impacts of Population Growth and Aging on the Future Canadian Labour Force”, in *Canadian Labour Markets in the 1980s*, proceedings of a conference held at Queen’s University, February 25–26, 1983 (Kingston: Queen’s University, Industrial Relations Centre, 1983), p. 600.

who usually experience higher unemployment rates than adult males. The most relevant items of social legislation were the increases in the minimum wage in the early 1970s, and the 1971 revisions of the Unemployment Insurance Act, which increased the generosity of the scheme in several respects. We shall take a closer look, in Chapter 10, at factors that increase the structural unemployment rate.

TABLE 7-7 Industrial Composition of Employment Growth

	Average Annual Rates of Growth				Per Cent Contribution to Overall Employment Growth			
	1956-66	1966-73	1973-79	1979-83	1956-66	1966-73	1973-79	1979-83
Primary goods	-2.9	-1.7	1.2	0.0	-16.6	-5.4	2.9	-0.6
Mining	0.9	2.1	4.3	—	0.6	1.0	2.1	—
Other primary	-3.5	-2.4	0.4	—	-17.2	-6.4	0.7	—
Secondary goods	2.8	2.1	2.3	-2.5	32.5	20.4	19.4	-77.6
Manufacturing	2.6	2.1	1.8	-2.3	23.7	15.9	12.2	-54.6
Construction	3.5	2.2	3.8	-3.2	8.8	4.5	7.2	-23.0
Services	4.2	4.4	3.8	2.1	84.1	85.0	77.7	178.2
Total	2.6	3.1	3.2	0.8	100.0	100.0	100.0	100.0

Source: Based on Statistics Canada, *Labour Force Survey*.

TABLE 7-8 Occupational Composition of Employment Growth

	Average Annual Rates of Growth			Per Cent Contribution to Overall Employment Growth		
	1966-73	1973-79	1979-83	1966-73	1973-79	1979-83
White-collar occupations ^a	4.4	4.2	2.4	84.7	81.1	194.4
Blue-collar occupations ^b	1.0	1.6	-2.2	15.3	18.9	-94.9
Total economy	3.1	3.2	0.8	100.0	100.0	100.0

Sources: Based on Statistics Canada, *Labour Force Survey*, and *Labour Force Annual Averages, 1975-1983*, Cat. No. 71-529 (Ottawa: Minister of Supply and Services Canada, 1984), pp. 220-24, 239-42; and Employment and Immigration Canada, Task Force on Labour Market Development, *Labour Market Development in the 1980s* (Ottawa: Minister of Supply and Services Canada, 1981), Table 2-6.

a. Managerial, professional, clerical, sales and services occupations.

b. Primary occupations, processing, construction, transportation, materials handling and other crafts.

TABLE 7-9 Part-Time/Full-Time Employment for Demographic Groups and Industries

	Average Annual per Cent Rate of Growth			Percentage Contribution to Employment Growth		
	1966-73	1973-79	1979-83	1966-73	1973-79	1979-83
Total employment						
Full-time	2.7	3.4	0.8	100.0	100.0	100.0
Part-time	2.3	3.3	0.0	74.0	85.6	0.0
	6.9	4.0	6.1	26.0	14.4	100.0
Part-time employment						
Youth	6.9	4.0	6.2	100.0	100.0	100.0
Adult women	10.8	6.0	4.6	55.5	62.6	32.7
Adult men	4.8	3.6	6.5	35.9	43.5	48.9
	4.8	-2.6	12.3	8.6	-6.4	18.4
Goods-producing industries	3.7	0.2	6.2	10.2	1.0	7.7
Services-producing industries	7.6	4.7	6.4	89.8	99.0	92.3
Full-time employment						
Youth	2.3	3.3	0.0	100.0	100.0	100.0
Adult women	2.6	3.6	-5.2	26.2	23.9	-
Adult men	4.6	6.7	3.7	37.1	43.0	-
	1.4	2.0	0.2	36.7	33.0	-
Goods-producing industries	0.5	2.2	-2.2	10.0	25.1	-
Services-producing industries	3.5	4.0	1.1	90.0	74.9	-

Sources: Canada, Employment and Immigration Canada, Task Force on Labour Market Development, *Labour Market Development in the 1980s* (Ottawa: Minister of Supply and Services Canada, 1981), Table 2-7; and Statistics Canada, *Labour Force Annual Averages, 1975-1983*, Cat. No. 71-529 (Ottawa: Minister of Supply and Services Canada, 1984), pp. 301-5, 319-23.

TABLE 7-10 Historical Composition of Employment of Men and Women by Industry

Industry	(percentage of total industry employment)												Industry share of total employment			
	1973						1979								1983	
	1956			1966			Per cent of female employment			Per cent of female employment					Per cent of female employment	
	Men	Women		Men	Women		Men	Women		Men	Women		Men	Women		
Mining	96.6	3.4	95.6	4.1	94.3	5.7	0.2	89.8	10.2	0.4	77.8	22.2	3.7	1.4	1.6	7.0
Other primary	95.6	4.4	89.3	10.7	87.3	12.7	2.4	78.1	21.9	3.2				6.1	5.7	
Manufacturing	78.9	21.1	78.0	22.0	76.0	24.0	15.6	73.5	26.5	13.6	71.8	28.2	11.8	22.4	20.0	17.5
Construction	97.6	2.4	96.6	3.4	95.2	4.8	0.9	92.0	8.0	1.3	89.9	10.1	1.3	6.3	6.2	5.2
Transportation	86.1	13.9	85.5	14.5	83.2	16.8	4.3	79.3	20.7	4.6	76.0	24.0	4.6	8.9	8.7	8.1
Trade	70.9	29.1	67.2	32.8	62.4	37.6	18.7	57.9	42.1	18.9	56.7	43.3	17.8	17.1	17.4	17.2
Finance, insurance	54.9	45.1	52.3	47.7	45.3	54.7	7.5	40.7	59.3	8.2	41.2	58.8	7.9	4.7	5.3	5.6
Services	43.3	56.7	39.6	60.4	41.0	59.0	45.1	40.3	59.7	43.7	39.1	60.9	46.4	26.1	28.4	31.9
Public administration	77.2	22.8	77.3	22.7	72.7	27.3	5.3	65.3	34.7	6.1	63.0	37.0	6.4	6.7	6.7	7.3
Total	76.4	23.6	69.7	30.3	65.7	34.3	100.0	61.2	38.8	100.0	58.1	41.9	100.0	100.0	100.0	100.0

Source: Based on Statistics Canada, *Labour Force Survey*.

TABLE 7-11 Occupational Contribution to Female Employment Growth by Industry, 1975-79

	Agri- culture	Other Primary	Manufac- turing	Construc- tion	Transpor- tation, Communi- cations, Utilities	Trade	Finance, Insurance, Real Estate	Services	Public Adminis- tration	Total	
										Women	Men
						(per cent)					
Highly qualified occupations		55.3	23.5	39.7	28.4	14.5	32.5	29.0	74.1	28.0	42.9
Clerical	24.1	44.7	15.9	26.0	34.9	35.7	35.7	17.1	0.7	22.9	
Sales			5.9		11.0	42.4	21.2	3.3		12.5	- 6.3
Service ^a			1.2		3.1	6.3	10.3	49.1	25.3	24.9	10.6
Primary occupations	75.9									1.6	5.4
Processing ^b			39.5			1.6		1.1		6.2	30.5
Construction				34.3						0.8	3.4
Transportation					22.6					1.3	7.9
Material handling			14.0					0.4		1.9	6.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Canada, Employment and Immigration Canada, Task Force on Labour Market Development, *Labour Market Development in the 1980s* (Ottawa: Minister of Supply and Services Canada, 1981), p. 26, based on Statistics Canada, *Labour Force Survey*.

Note: This table shows the extent to which employment of women increased over 1975-79 in various occupational categories. For example, in manufacturing industries, 23.5% of the total increase in employment of women occurred in highly qualified occupations.

a. Includes occupations such as waiters, chambermaids, janitors, dry-cleaning occupations.

b. Includes occupations in the processing of metal, rubber, plastic, food and beverages, wood and textiles.

**TABLE 7-12 The Composition of Employment and Unemployment
by Type of Work Sought, Canada, 1981**

Sex and Age Group (Years)	Employment		Unemployment		Labour Force	
	Full- Time	Part- Time	Full- Time	Part- Time	Full- Time	Part- Time
Male	64.6	28.0	58.0	37.0	64.1	28.7
15-19	3.3	16.2	10.7	27.7	3.8	17.1
20-24	8.7	4.0	15.6	4.2	9.2	4.0
25-44	32.9	2.8	22.0	2.5	32.1	2.8
45-64	18.6	2.5	9.7	2.5	18.0	2.5
65+	1.0	2.4	0.1	0.0	1.0	2.3
Female	35.4	72.0	42.0	63.0	35.9	71.3
15-19	2.5	17.1	8.4	23.5	2.9	17.5
20-24	6.9	6.8	10.3	6.7	7.1	6.8
25-44	17.6	29.9	18.4	22.7	17.7	29.4
45-64	8.0	16.7	4.9	9.2	7.8	16.1
65+	0.3	1.6	0.0	0.8	0.3	1.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Statistics Canada, *The Labour Force*, Catalogue No. 71-001 (Canada: Minister of Supply and Services Canada, monthly), December 1981, p. 100, and unpublished data with estimates and calculations by the author.

Capital Formation

Capital formation has an important function in the growth process. As Table 7-16 shows, investment has been sufficient to cause our total capital stock and our capital stock per person employed to increase at a very rapid rate since the Second World War.

Capital stock grew slowly between 1926 and 1946, reflecting low investment during the Depression, as the result of low total demand, and throughout the Second World War, when investment in the private sector was "crowded out" by government borrowing. After 1946 and before the onset of the recent recession, capital investment in Canada increased at a relatively high rate. It grew somewhat more rapidly than employment, producing a substantial increase in real capital per person employed. While the growth rate of the latter measure decreased over time, there was no sharp step downward after 1973. This suggests that at least at the aggregate level, very little of the post-1973 slow-down in productivity can be attributed to insufficient investment.

TABLE 7-13 Unemployment Rates by Sex and Age Groups^a

Year	Men			Women			Total		
	Total	14-24	25+	Total	14-24	25+	Total	14-24	25+
1953	3.4	6.0	2.8	1.6	2.4	1.2	3.0	4.6	2.5
1954	5.2	8.8	4.3	2.6	3.9	1.8	4.6	7.0	3.9
1955	5.0	8.6	4.2	2.6	3.7	1.9	4.4	6.8	3.7
1956	3.9	6.9	3.3	1.9	2.8	1.4	3.4	5.3	2.9
1957	5.4	9.7	4.4	2.3	3.6	1.6	4.7	7.4	3.9
1958	8.2	14.5	6.8	3.6	5.6	2.6	7.1	11.1	5.9
1959	7.0	12.3	5.8	3.0	5.2	2.0	6.0	9.6	5.0
1960	8.2	14.2	6.8	3.6	6.3	2.4	7.0	11.1	5.8
1961	8.4	14.1	7.2	3.8	6.4	2.5	7.2	11.0	6.2
1962	6.9	12.1	5.8	3.3	5.6	2.2	6.0	9.5	5.0
1963	6.4	11.7	5.2	3.3	5.9	2.1	5.6	9.4	4.5
1964	5.4	9.9	4.3	3.1	5.3	2.0	4.7	8.0	3.7
1965	4.5	7.7	3.6	2.7	4.8	1.7	4.0	6.5	3.1
1966	4.1	7.2	3.3	2.6	4.3	1.7	3.6	6.0	2.9
1967	4.6	8.2	3.7	3.0	5.1	1.9	4.1	6.9	3.2
1968	5.5	9.9	4.3	3.4	6.0	2.1	4.9	8.2	3.7
1969	5.2	9.5	4.0	3.6	5.9	2.4	4.7	8.0	3.6
1970	6.6	12.4	5.0	4.5	7.7	2.9	5.9	10.4	4.4
1966	3.3	6.3	2.6	3.4	4.8	2.7	3.4	5.6	2.6
1967	3.9	7.2	3.0	3.7	5.5	2.8	3.8	6.5	2.9
1968	4.6	8.7	3.5	4.4	6.5	3.3	4.5	7.7	3.4
1969	4.3	8.3	3.2	4.7	6.5	3.7	4.4	7.5	3.4
1970	5.6	11.2	4.1	5.8	8.6	4.4	5.7	10.0	4.2
1971	6.0	12.0	4.3	6.6	9.8	5.0	6.2	11.1	4.5
1972	5.8	11.9	4.1	7.0	9.6	5.7	6.2	10.9	4.6
1973	4.9	10.0	3.4	6.7	9.2	5.4	5.5	9.6	4.1
1974	4.8	9.6	3.3	6.4	8.9	5.1	5.3	9.3	3.9
1975	6.2	12.5	4.3	8.1	11.4	6.5	6.9	12.0	5.0
1976	6.3	13.2	4.2	8.4	12.1	6.6	7.1	12.7	5.1
1977	7.3	14.9	4.9	9.4	13.8	7.4	8.1	14.4	5.8
1978	7.5	15.0	5.2	9.6	13.8	7.7	8.3	14.5	6.1
1979	6.6	13.2	4.5	8.8	12.7	7.0	7.4	12.9	5.4
1980	6.9	13.7	4.8	8.4	12.6	6.5	7.5	13.2	5.4
1981	7.0	14.1	4.8	8.3	12.3	6.7	7.5	13.2	5.6
1982	11.1	21.1	8.2	10.9	16.1	8.8	11.0	18.8	8.4
1983	12.1	22.4	9.2	11.6	17.0	9.6	11.9	19.9	9.4

Source: Statistics Canada, *Historical Labour Force Statistics – Actual Data, Seasonal Factors, Seasonally Adjusted Data, 1973, 1983*, Cat. No. 71-201 (Ottawa: Minister of Supply and Services Canada, 1974, 1984).

a. The data up to 1970 reflect the concepts used in the “old” labour-force survey. The data from 1966 to 1983 are based on a “new” labour-force survey. The data for the years 1966 to 1970 provide for a period of overlap.

TABLE 7-14 Percentage Distribution of Unemployment, by Duration, Canada, 1980 and 1983

Duration of Spell of Unemployment	1980	1983
Less than 1 month	33.4	23.5
1 to 3 months	31.4	26.5
3 to 6 months	19.7	21.6
6 months or more	15.5	28.4
	100.0	100.0

Source: Economic Council of Canada, *Steering the Course*, Twenty-First Annual Review (Ottawa: Minister of Supply and Services Canada, 1984), p. 71.

TABLE 7-15 Percentage Distribution of Long-Term Unemployment among the Demographic Groups, Canada, 1980 and 1983

Age-Sex Group	1980	1983
Men		
15 to 24 years	19.2	20.5
25 to 44 years	23.1	30.0
45 years or older	13.8	13.9
Women		
15 to 24 years	16.2	11.4
25 to 44 years	18.5	17.1
45 years or older	9.2	7.4
	100.0	100.0

Source: Economic Council of Canada, *Steering the Course*, Twenty-First Annual Review (Ottawa: Minister of Supply and Services Canada, 1984), p. 71.

TABLE 7-16 Canadian Non-Residential Net Capital Stock^a

Year	Level Billions 1971 \$	Average Annual Growth Rate (%)	Level Per Unit of Real GNE	Average Annual Rate of Change in Capital Stock/GNE Ratio (%)	Level Per Person Employed ('000 71\$)	Average Annual Growth Rate in Capital Stock/ Employment Ratio (%)
1926	32.8		2.33			
1946	43.2	1.4	1.53	-2.1	9.23	0.0
1956	78.6	6.2	1.65	0.8	14.1	4.3
1966	136.0	5.6	1.82	1.0	19.1	3.1
1973	192.7	5.1	1.73	-0.7	22.0	2.0
1981	278.4	4.7	2.05	2.2	25.3	1.8

Source: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Tables 4-2, 2-5 and 9-1.

a. Private and public.

Investment and savings are key dynamic factors in the growth of the economy's potential. They are also important determinants of aggregate demand and of the economy's cyclical performance. As Tables 7-17A and 17B show, total investment, business investment, and residential (housing) investment were all higher, on average, in the years from 1974 to 1980 than they were in the period from 1967 to 1973. Only government investment decreased as a share of GNE from one period to the other.⁵

The composition of investment did not change substantially between 1967-73 and 1974-80; at first sight, the composition of the matching savings shows more change. The overall increase in savings between 1974 and 1980 appears to have resulted from significant increases in the savings rates of the personal sector and the non-resident sector.⁶ These increases were only partially offset by a decrease in government savings (government investment less the government deficit). Recorded savings, however, are distorted by inflation, and the distortion has been greater in the more recent periods because of the increase in the average inflation rate. The distortion of gross savings rates reflects the fact that no allowance is made for the decline in the real value (as a result of inflation) of assets and liabilities, the dollar values of which are fixed. (Net savings rates are distorted by the failure of conventional business or national accounts to adjust depreciation provisions for inflation.)

When savings ratios are adjusted for inflation, the compositional shifts are reduced, although the directions of change remain. Inflation adjustment reduces the savings of those sectors that are net holders of fixed-dollar assets: that is, the personal and non-resident sectors. It increases the (gross) savings

(or reduces the deficit) of sectors that are net debtors: that is, the corporate sector and the government sector. (The increase in corporate gross savings would not necessarily translate into an increase in corporate net savings, since depreciation allowances would also be adjusted upwards.) For the economy as a whole, the inflation adjustments are exactly offsetting; thus total domestic savings, which include savings provided to Canada by non-residents, are not affected.

TABLE 7-17A Average Ratios of Investment to GNP in Canada, 1967-1980

Gross Investment	1967-73 (%)	1974-80 (%)
Government gross fixed capital formation	3.9	3.2
Private gross fixed capital formation:	18.1	20.1
Residential construction	4.9	5.8
Business construction ^a	13.2	14.3
Inventory investment	0.8	0.8
Total investment ^b	22.8	24.0

Source: Statistics Canada, National Accounts data; and "Inflation-adjusted Gross and Net Sector and Subsector Savings" (Ottawa, 1985).

a. Non-residential construction plus machinery and equipment.

b. Includes energy investment equal, on average, to 3.0% of GDP (1967-73) and 3.8% of GNP (1974-80).

TABLE 7-17B Average Ratios of Savings to GNP in Canada, 1967-1980

Gross Savings Recorded	1967-73 (%)	1974-80 (%)	Inflation Adjusted	
			1967-73 (%)	1974-80 (%)
Private sector:	17.7	20.5	17.7	20.8
Personal sector	7.5	10.5	4.6	6.2
Corporate sector	10.2	10.0	13.0	14.6
Government sector ^a	4.7	1.5	5.6	2.8
Federal government	0.8	-2.1	1.2	-1.1
Non-residents	0.3	2.0	-0.5	0.5
Total national savings ^b (excludes non-residents)	22.4	22.0	23.2	23.6
Total domestic savings ^c	22.7	24.1	22.7	24.1

Sources: Statistics Canada, National Accounts data, and "Inflation-adjusted Gross and Net Sector and Subsector Savings" (Ottawa, 1985).

a. Government-sector savings equal the government surplus plus government gross fixed-capital formation.

b. Excludes non-residents.

c. Total investment equals total domestic savings except for residual error of estimate.

Overall, then, modestly larger shares of the total output of the Canadian economy were devoted to total investment and to business investment in the seven years before the 1981–82 recession than were so directed in the preceding seven years. The resources for this investment were provided by a small increase, given inflation-adjusted figures, in the ratio of personal savings to GNP, and larger increases in the ratios of corporate and non-resident savings to GNP, with a partially offsetting reduction in the savings provided by the government sector.

Industrial Structure

Table 7-18 shows the distribution of current dollar or nominal output by industry in 1947, 1963 and 1981. The sharp decline in the proportion of output in agriculture, from 11.7 per cent in 1947 to 3.3 per cent in 1981, is one striking feature of the post-war industrial landscape. An even more important feature is the relative decline of manufacturing and the rise of the service sector. The manufacturing sector's share of total output fell from 28.5 per cent in 1947 to 20.4 per cent in 1981; meanwhile the share of output of finance, insurance and real estate climbed from 8.5 per cent to 11.3 per cent, and the share of other services jumped from 10.4 per cent to 21.5 per cent. This shift corresponds to developments in other industrialized countries and is usually cited as a fundamental change in industrial structure with wide-ranging implications. In fact, however, the change in the composition of nominal industrial output is not a very satisfactory indicator of structural change, since it incorporates differential sectoral price trends as well as underlying real changes. The trends in real shares are portrayed in Table 7-19.

The largest changes in real gross domestic product (GDP) have occurred in the primary sectors. By 1981, their combined share of GDP had fallen by more than half of its 1947 level. This relative decline in the primary GDP share was offset by increases in all other sectors, except manufacturing and public administration. The manufacturing sector rose in relative importance in the 1960s, and then returned to approximately its 1947 share in 1981. This pattern contrasts with the steady decrease in manufacturing's share of nominal GDP, which is accounted for, in part, by the fact that prices for manufactured goods have increased less than average prices. The real share of public administration decreased after 1963 as the increase in the nominal share slowed down. The difference between the trends in the nominal and real shares of this sector reflects the assumed lack of productivity growth in the sector, in which output is measured primarily in terms of inputs.

Perhaps the most notable feature of Table 7-19—one that contradicts popular belief—is the absence of a substantial gain in the shares of non-goods-producing sectors relative to the goods-producing sectors. In fact, in real terms, the GDP share of the goods-producing sector declined only slightly, from 38.8 per cent in 1947 to 37.2 per cent in 1981.

TABLE 7-18 Share Distribution of Canada's Nominal GDP

	1947	1963	1981
	(per cent of total)		
Agriculture	11.7	5.6	3.3
Forestry, fishing, and trapping	2.9	1.2	1.0
Mines ^a	3.6	4.0	5.9
Manufacturing	28.5	26.2	20.4
Construction	5.1	5.6	6.3
Utilities	2.2	2.8	3.5
Transportation, storage, and communications	10.2	9.2	8.2
Trade	12.0	12.4	10.9
Finance, insurance, and real estate ^b	8.5	11.4	11.3
Other services	10.4	14.7	21.5
Public administration	4.9	6.9	7.6

Source: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Table 12.2.

a. The share of oil in GDP for mining was 56.4 per cent in 1981.

b. The share of imputed rent or owner-occupied housing in GDP in Finance, Insurance and Real Estate was 30 per cent in 1981.

Real Income and Productivity Growth

The conventional approach to analysing the sources of economic growth has been to focus on increases in the quantity and the quality of the inputs used to produce output. This approach, which is called "growth accounting",⁷ also considers the degree to which the inputs are employed and the efficiency with which they are used. Economic studies devoted to growth accounting usually calculate indirectly changes in the efficiency of input use (including efficiency gains derived from technological change); that is, the efficiency gain is what remains after all other contributions to the growth process have been quantified. This section presents some elementary growth-accounting calculations for Canada.

Table 7-20 provides estimates of the relative contributions made by various factors to economic growth over the periods 1962 to 1973 and 1973 to 1981. The average annual growth of real gross national expenditure fell from 5.7 per cent in 1962-73 to 3.0 per cent in 1973-81. To gain an understanding of the causes of this slow-down in real growth, it is useful to refer to an output measure called "gross output of the non-energy sector at factor cost". This measure differs from real GNE in that it excludes the final output of the energy sector and includes all income generated in Canada, rather than all income accruing to Canadian residents from domestic and foreign sources.

TABLE 7-19 Share Distribution of Canada's Real GDP

	1947	1963	1981
	(per cent of total)		
Agriculture	6.4	4.7	2.5
Forestry, fishing, and trapping	1.8	1.2	0.8
Mines ^a	1.9	3.7	2.9
Manufacturing	21.8	22.2	21.6
Construction	5.8	7.3	6.2
Utilities	1.1	2.2	3.2
Transportation, storage, and communications	8.5	8.3	10.5
Trade	12.1	11.5	12.5
Finance, insurance, and real estate ^b	11.9	12.3	13.2
Other services	19.4	18.2	19.7
Public administration	8.9	8.9	6.7

Source: Michael Charette, Robert R. Henry, and Barry Kaufman, "The Evolution of the Canadian Industrial Structure: An International Perspective", in *Canadian Industry in Transition*, vol. 2, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).

- a. The share of oil in GDP for mining was 36.4 per cent in 1981.
- b. The share of imputed rent or owner-occupied housing in GDP in Finance, Insurance and Real Estate was 30 per cent in 1981.

We have chosen to examine the gross output of the non-energy sector because the energy sector itself experienced a decline in productivity growth over the 1973–81 period. Consequently, this approach also allows us to identify the effect of the changing level of use of energy inputs on productivity in the non-energy sector.

As Table 7-20 indicates, the gross output of the non-energy sector at factor cost grew more slowly than GNE in the 1962–73 period and more quickly than GNE in the 1973–81 period. The difference arises largely from the fact that the growth of energy output was relatively high in the first period and declined sharply in the second. This leaves to be explained by other factors a slow-down of 2.2 percentage points in the average annual growth of output. When allowance is made for a decrease in the average annual rate of growth of employment in the non-energy sector of 0.2 percentage points (from 3.1 per cent in the 1962–73 period to 2.9 per cent in the 1973–81 period), average annual labour productivity growth declines by 1.8 percentage points (from 2.4 per cent per year in the first period to 0.6 per cent in the second period).

A significant portion of the decline in output and productivity growth between the two periods considered is a result of the weaker cyclical conditions after 1973. If output and employment are adjusted to eliminate the effect of the business cycle, then the average annual slow-down in the rate of

TABLE 7-20 Components of Economic Growth in Canada, 1962-81

	1962-73	1973-81	Change from 1962-73 to 1973-81
	(average annual rates of change)		
Gross national expenditure	5.7	3.0	-2.7
Gross output of non-energy sector (at factor cost)	5.6	3.4	-2.2
Employment (non-energy sector)	3.1	2.9	-0.2
Labour productivity	2.4	0.6	-1.8
Cyclically adjusted gross output of non-energy sector (at factor cost)	5.1	4.2	-0.9
Employment (non-energy sector)	2.8	3.0	0.2
Labour productivity	2.2	1.1	-1.1
Labour productivity resulting from cyclical factors	0.3	-0.5	-0.8
Capital (non-energy sector)	4.5	4.3	-0.2
Capital/labour ratio	1.3	1.4	0.1
Capital/labour substitution ^a	0.4	0.4	0.0
Energy	7.0	2.7	-4.3
Energy/labour ratio	3.8	-0.2	-4.0
Energy/labour substitution ^b	0.3	0.0	-0.3
Total factor productivity	1.7	0.2	-1.5
Total factor productivity excluding impact of cyclical factors	1.5	0.7	-0.8
Changes to labour composition			
Sex-age mix	-0.2	-0.2	0.0
Education	0.5	0.8	0.3
Employment shifts	-0.1	-0.3	-0.2
Final residual	1.3	0.5	-0.8

Source: Estimates by Commission staff.

a. Capital/labour ratio weighted by the capital-income share.

b. Energy/labour ratio weighted by the energy-income share.

growth of output of the non-energy sector is only 0.9 percentage points; the change in annual average employment growth in the non-energy sector becomes a gain of 0.2 percentage points. The slow-down in average annual productivity growth on a cyclically adjusted basis of 1.1 percentage points is significantly less than the actual slow-down of 1.8 percentage points. This analysis indicates that cyclical factors raised the growth of labour productivity by 0.3 percentage points per year between 1962 and 1973, and lowered it by 0.5 percentage points between 1973 and 1981, thus accounting for 0.8 percentage points of the slowing in productivity growth.⁸

A change in the capital intensity of the economy is one factor that can affect the growth of labour productivity. Table 7-20 shows that the capital stock grew an average of 4.5 per cent per year, from 1962 to 1973, and 4.3 per cent per year from 1973 to 1981. This rate was faster than that of employment growth in both periods; the result was that the capital/labour ratio rose by 1.3 per cent per year, on average, from 1962 to 1973, and by 1.4 per cent per year from 1973 to 1981. Multiplying the change in the capital/labour ratio by the share of capital income in total output provides an estimate of the change in labour productivity that derives from the substitution of capital for labour. This change amounted to an increase of about 0.4 percentage points per year in both periods and therefore did not contribute to the slow-down in the growth of labour productivity.

Another factor that can affect the growth of labour productivity is change in the level of energy use. Energy input grew by a hefty 7 per cent per year, on average, from 1962 to 1973, a period when energy was relatively cheap; its growth rate fell to 2.7 per cent per year from 1973 to 1981, a period that included two rounds of major increases in world oil prices. Viewed in relation to employment, the shift is even more dramatic. The energy/labour ratio increased by an average of 3.8 per cent per year from 1962 to 1973, and fell by 0.2 per cent per year from 1973 to 1981. According to our rough estimates, the substitution of energy for labour added 0.3 percentage points per year to the growth of labour productivity from 1962 to 1973, and had an insignificant negative effect from 1973 to 1981. This shift accounts for roughly 0.3 percentage points per year of the slow-down in labour-productivity growth between 1973 and 1981.

If one takes into account the growth of the economy's capital stock and the growth in energy use, their total factor productivity rose by 1.7 per cent per year from 1962 to 1973, and by 0.2 per cent from 1973 to 1981. The decline in the growth of total factor productivity of 1.5 percentage points was only slightly less than the decline in labour-productivity growth of 1.8 percentage points.

Cyclically adjusted total factor productivity increased by 1.5 per cent per year between 1962 and 1973, and by 0.7 per cent per year from 1973 to 1981. Thus the decline in cyclically adjusted total factor-productivity growth was 0.8 percentage points per year.

Some observers argue that the increase in the number of women and young people as new entrants to the work-force has reduced productivity growth, since members of these groups are likely to be less productive than long-term workers. However, less experience in the work-force and greater emphasis on part-time work are explanations for this alleged lower productivity of new labour-force entrants. To test the contention that the reduced productivity growth stems, in part, from the changing sex-age mix of the labour force, Commission researchers broke the labour force down into six age groups by sex and used the relative wage of each age-sex group as a measure of differences in productivity. The results of this analysis suggest that the increase in the proportion of women and young people in the work-force has reduced the growth of productivity by about 0.2 percentage points per year

between 1962 and 1973, and by the same amount between 1973 and 1981. Thus the changing sex-age mix of employment does not help to explain the post-1973 change in the rate of productivity growth.

Commissioners took a similar approach in estimating the effect of an increasingly better-educated work force on productivity growth. Again, we used relative earnings as a rough index of productivity differences. The analysis indicates that the improvement in the educational level of workers added 0.5 percentage points per year to productivity growth over the 1962–73 period and 0.8 percentage points from 1973 to 1981, thus raising productivity growth by 0.3 percentage points per year from one period to the next.

A final factor is the effect on productivity of employment shifts among industries. The sectors used for this analysis were agriculture, manufacturing, other commercial goods-producing industries, commercial service-producing industries, and non-commercial industries. The analysis shows that the shift, mainly out of relatively high-productivity manufacturing into lower-productivity commercial services, depressed the growth of productivity by 0.1 percentage points per year from 1962 to 1973, and by 0.3 percentage points per year from 1973 to 1981. Consequently, this factor explains 0.2 percentage points of the average annual slow-down in growth after 1973.

Even if allowance is made for all of the factors mentioned above, a significant proportion of the post-1973 productivity slow-down is left unexplained. If the effects of the business cycle are eliminated, the unexplained residual amounts to 1.3 percentage points per year in the 1962–73 period and 0.5 percentage points per year in the 1973–81 period, a decline of 0.8 percentage points per year.

This residual is sometimes taken to be an indicator of the contribution of technological change to growth, though it is hard to believe that the contribution of this factor diminished by the amount suggested by the change in the residual, especially at a time when casual empiricism suggests a quickening of the pace of change.

The slow-down in the growth of productivity is a matter of considerable concern, affecting, as it does, all Canadians' prospects for an improvement in living standards.

Government Expenditures and Employment

An important development in the post-war period has been the growth in the size of government. Spending at all levels of government has increased relative to the size of the economy, as has spending on almost all major government functions. A few aggregate statistics cannot provide an adequate view of the changes in size and role of government. Given the importance of these changes, it is necessary to examine in more detail the evolution of government expenditure over the post-war period.

The ratio of total government expenditure to gross national product (GNP) is frequently used as an indicator of the size of government. It is important,

however, to be aware that the ratio does not actually measure the proportion of the economy's output that is absorbed or consumed by government. Total government expenditure includes a number of items, such as transfer payments to persons and public debt interest, that have no counterpart in GNP. Thus the ratio of government expenditure to GNP provides only a rough indication of growth in government spending in relation to growth of the economy.

Table 7-21 starts with this overall indicator of the size of government. Figures for the years shown, 1926 (a pre-Depression year and the first year for which National Accounts data are available), 1950, 1960, 1970, and 1980, allow identification of the general trends. They do not, however, mark certain interesting turning points, such as the virtual cessation in growth of the relative size of government from 1975 until 1981. A subsequent further increase in the relative size of government is mainly the result of the recent recession, which has led to an increase in Unemployment Insurance and welfare expenditure and reduced GNP growth.

Government expenditure as a percentage of GNP was somewhat higher in 1950, after the post-war adjustment period, than it had been immediately before the Depression. It grew rapidly between 1950 and 1975. This growth was not concentrated in any one of the major areas of expenditure. Table 7-21 also presents a number of indicators that are, in some respects, more

TABLE 7-21 Relative Size of Government

		(national accounts basis)			
	1926	1950	1960	1970	1980
Expenditures of total government sector as share of GNP ^a	15.7	22.1	29.7	36.4	41.8
Government current expenditure on goods and services as % of consumer plus government current expenditures on goods and services	10.0	13.4	17.2	24.8	25.9
Government fixed capital formation as % of total fixed capital formation	13.0	13.5	18.4	17.6	12.0
Government transfer payments to persons as % of total personal income	1.8	7.2	10.4	10.5	12.6
Government wages and salaries as % of total wages & salaries ^b	10.1	11.7	16.0	22.9	24.2

Sources: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Tables 2.1, 2.16, 2.9 and 5.2; and *National Income and Expenditure Accounts*, vol. 1, Cat. No. 13-531 (Ottawa: Minister of Supply and Services Canada, 1984).

a. Net of intergovernmental transfers.

b. Wages, salaries and supplementary labour income (including military pay and allowances).

meaningful than the expenditure-to-GNP ratio. We shall review these indicators in conjunction with the information on government expenditure by type and function provided in Tables 7-22 and 7-23.

TABLE 7-22 Government Expenditures by Type and Budget Balances

National Accounts Categories (% of GNP)	(national accounts basis)				
	1926	1950	1960	1970	1980
Total government sector					
Current goods and services and capital formation	9.6	13.1	17.7	23.1	22.9
Transfers to persons	1.4	5.5	8.1	8.2	10.3
Subsidies and capital assistance	—	0.4	0.9	1.0	2.8
Transfers to non-residents	0.1	0.1	0.2	0.3	0.3
Interest on the public debt	4.5	2.9	2.8	3.8	5.6
Total	15.7	22.1	29.7	36.4	41.9
For reference: surplus or deficit	1.1	3.0	-1.7	0.9	-2.5
Federal government sector					
Current goods and services and capital formation	2.5	5.4	6.9	5.9	5.0
Transfers to persons	0.8	3.3	5.1	4.7	5.6
Subsidies and capital assistance	—	0.3	0.8	0.8	2.1
Transfers to non-residents	0.1	0.1	0.2	0.3	0.3
Interest on the public debt	2.5	2.3	2.0	2.2	3.3
Transfers to provincial/local governments	0.3	1.4	2.6	4.0	4.3
Total	6.2	12.8	17.6	17.8	20.6
For reference: surplus or deficit	1.3	3.5	-0.6	0.3	-3.3
Provincial, local and hospital sectors					
Current goods and services and capital formation	7.2	7.7	10.8	17.2	17.9
Transfers to persons	0.7	2.2	2.9	3.3	3.9
Subsidies and capital assistance	—	0.1	0.1	0.2	0.7
Interest on the public debt	2.0	0.6	0.9	1.6	2.3
Total	9.8	10.6	14.7	22.4	24.8
For reference: surplus or deficit	-0.2	-0.5	-1.2	-0.8	-0.1
CPP/QPP sector					
Transfers to persons	—	—	—	0.1	0.7
Total	—	—	—	0.2	0.7
For reference: surplus or deficit	—	—	—	1.4	1.0

Sources: Statistics Canada, *National Income and Expenditure Accounts 1926-1974*, vol. 1, Cat. No. 13-531 (Ottawa: Minister of Supply and Services Canada, 1976); and Finance Canada, *Economic Review, April 1984* (Ottawa: Minister of Supply and Services Canada, 1984).

Note: The inclusion of the hospital sector as part of the government sector after 1961 gives rise to some non-compatibility. In 1950 and 1960, provincial and local transfers to hospitals, equal respectively to 0.5 per cent and 1.3 per cent of GNP, were included in transfers to persons. From 1961 on, total operating expenditures by hospitals were included in government (provincial-local-hospital) expenditures on current goods and services.

TABLE 7-23 Government Expenditures by Function

	(based on financial management accounting system)				
Functional Categories	1937	1950	1960	1970	1980
	(as % of GNP)				
Consolidated government sector					
General government	n.a.	1.3	1.4	2.3	3.1
National Defence	0.6	3.3	4.0	2.0	1.7
Other protection of persons and property	n.a.	0.4	1.2	1.6	1.8
Health	0.8	1.3	2.2	5.0	5.0
Social Welfare	4.7	5.0	6.1	6.8	9.7
Education	2.2	2.4	4.1	7.0	6.2
Transportation & Communications	3.1	2.6	3.8	3.7	3.7
Foreign Affairs (including aid)	—	0.1	0.2	0.3	0.4
Debt charges	6.1	3.1	2.8	3.1	4.7
Other	n.a.	3.9	4.1	4.9	7.8
Total	22.7	23.3	29.9	36.7	44.0
Federal sector					
General government	0.7	1.1	0.7	1.2	1.2
National Defence	0.6	3.3	4.0	2.0	1.7
Other protection of persons and property	0.2	0.2	0.2	0.4	0.5
Health	—	0.2	0.7	1.5	1.5
Social Welfare	2.4	4.1	5.3	5.2	7.3
Education	0.1	0.1	0.2	1.0	0.8
Transportation & Communications	0.6	0.6	1.0	1.2	1.4
Foreign Affairs (including aid)	—	0.1	0.2	0.3	0.4
Debt charges	3.4	2.4	2.1	1.4	2.5
Unconditional transfers to other levels	0.4	0.7	1.5	1.5	1.5
Other	1.5	2.4	2.4	2.5	4.2
Total	10.1	15.1	18.3	18.4	22.9
Consolidated provincial-local sector					
General government	n.a.	n.a.	0.7	1.2	1.9
Other protection of persons and property	n.a.	n.a.	1.0	1.3	1.4
Health	0.8	1.2	2.1	4.8	4.9
Social Welfare	2.9	1.4	1.0	2.0	3.2
Education	2.2	2.3	3.8	6.8	6.1
Transportation & Communications	2.5	1.9	2.9	2.7	2.3
Debt charges	2.7	0.6	0.8	1.6	2.2
Other	n.a.	2.0	1.7	2.7	3.8
Total	13.8	9.5	14.0	23.0	25.7

Source: Statistics Canada data on Gross General Expenditures for 1970 and 1980, and on Net General Expenditures for 1937, 1950, and 1960. The latter figures have been adjusted by Commission staff to provide approximate historical comparability.

Note: Federal sector and consolidated provincial-local sector do not add to total, as federal transfers to provinces are included with federal, but not netted out of provincial-local. Consolidated total government-sector data are net of all intergovernmental transfers.

Total expenditures on the financial management-system basis are slightly higher than on the national accounts system basis used in most other tables. (Certain tax credits are counted as expenditures under the financial management system, but serve to reduce tax revenues under the national accounts system).

The ratio of government expenditures on current goods and services, termed "government-operating expenditures", to the sum of consumer expenditures, plus these government expenditures (total consumption in the economy) was slightly higher in 1950 than it had been in 1926, largely because defence expenditures were higher. The ratio rose substantially from 1950 to 1960, reflecting growth in most categories of government operations, but particularly in education. It increased again in the 1960s, in spite of a decline in defence expenditures relative to GNP, largely because of further growth in education expenditures and the government's adoption of major new roles in the hospital and Medicare areas. Government consumption showed only modest further growth relative to total consumption in the 1970s.

Government capital spending has actually been lower in the last few years, relative to total capital spending in the economy, than it was immediately before the Depression. From the mid-1950s to the mid-1970s, however, the period of major government investment in highways, schools and hospitals, it, too, stood at much higher levels.

The fraction of total personal income provided by government-transfer payments to persons, through programs such as the Old Age Security (OAS), Guaranteed Income Supplement (GIS), Unemployment Insurance (UI), Family Allowance, and welfare payments, has increased in each post-war decade, though it, too, levelled off between 1975 and 1981, before increasing again during the recent recession. The upward trend reflected the successive introduction of major new programs: Unemployment Insurance in 1942, Family Allowances in 1945, old-age pensions in 1952, the Canada/Quebec Pension Plans (CPP/QPP) in 1967, and the Guaranteed Income Supplement (GIS). It also reflected the enrichment of some programs in real terms, notably the changes in the UI system that took effect in 1972, the gradual growth in the proportion of retired persons eligible for full rates of CPP/QPP benefits, and the liberalization of provincial/municipal welfare systems, especially from the mid-1960s onward.

Finally, Table 7-21 shows that the proportion of total wages and salaries originating in the government sector was somewhat higher in 1950 than it had been in 1926. That proportion increased sharply between 1950 and 1960, reflecting the general growth in government operations, especially in education; it increased again, after 1961, when hospitals came to be treated as part of the government sector. By 1980, government employment provided about one-quarter of total wages in the economy. Government wages do not include wages in the post-secondary education sector or doctors' fees: these payments are treated respectively as transfers to non-profit institutions and purchases of services. The provincial, local and hospital sectors accounted for some 80 per cent of total wage payments by government in 1980.

Other categories of expenditures, which cannot be readily related to particular bases, have also increased relative to the size of the economy. (See Table 7-23.) Subsidies and capital assistance increased moderately relative to GNP until the 1970s, when expenditure in this category ballooned, especially with the introduction of the oil-import subsidy program. Growth in foreign aid is reflected in growth in transfers to non-residents.

The cost of interest on the public debt fell relative to the size of the economy from the end of the Second World War to the 1960s, reflecting the decline in debt relative to GNP during a period of stable interest rates. Debt interest then increased because of the rising trend of interest rates and, after 1975, the rising ratio of federal debt to GNP. The interpretation of debt costs is clouded, however, during an inflationary period. While inflation tends to cause high nominal interest rates and thus an escalation of interest charges, it also erodes the real value of the existing debt stock. The standard government and national accounts allow only for the first effect. "Inflation-adjusted" debt costs would show substantially less increase, relative to the size of the economy, over the last two decades.

Table 7-24 ranks the three orders of government by their shares of total government spending. If inter-governmental transfers are counted as part of the expenditure of the government making the transfer, the post-war growth of government expenditure, relative to the economy, has been most rapid for the provincial order and least rapid for the local order. If intergovernmental transfers are not included as part of the expenditures of the government providing the transfer, the provincial sector still shows the most growth, but it is now followed by the local sector, rather than by the federal government.

TABLE 7-24 Shares of Total Government Spending by Order of Government

	(national accounts basis)				
	1926	1950	1960	1970	1980
Before intergovernmental transfers^a					
Federal	39.6	58.1	59.3	49.0	49.1
Provincial-hospital	20.5	23.8	22.4	34.8	37.8
Local	39.9	18.2	18.3	15.8	10.9
CPP/QPP	—	—	—	0.4	2.1
Total	100.0	100.0	100.0	100.0	100.0
After intergovernmental transfers^b					
Federal	37.8	51.9	50.5	38.1	38.8
Provincial-hospital ^c	20.2	26.0	24.8	35.7	39.1
Local	42.0	22.1	24.7	25.8	20.0
CPP/QPP	—	—	—	0.4	2.1
Total	100.0	100.0	100.0	100.0	100.0

Source: Statistics Canada, National Income and Expenditure Accounts 1926-1974, Vol. 1 Cat. No. 13-531 (Ottawa: Minister of Supply and Services Canada, 1976); and Finance Canada, *Economic Review*, April 1984 (Ottawa: Minister of Supply and Services Canada, 1984).

a. Expenditures net of intergovernmental transfers received.

b. Expenditures net of intergovernmental transfers paid to other levels.

c. Includes the "hospital" sector, starting in 1961.

The changes in the shares of the various orders of government shown in Table 7-24 reflect the pattern of relative growth in the different functions of government. Health and education, two important functions that have experienced rapid growth over the post-war period as a whole, are carried out by the provincial or the provincial-local orders. While spending on one important federal function, that of defence, has declined quite substantially, on balance, since 1950, spending on most other federal functions has increased relative to the size of the economy. Federal transfers to the provinces have increased substantially since 1950. This generalization applies both to federal transfers that finance a portion of health, education and welfare expenditures in all provinces, and to transfers under the equalization program, which provides unconditional financial support to provinces with less-than-average fiscal capacity.

Tables 7-25 and 7-26 show expenditure and revenue-growth rates for the federal government and selected provincial governments during selected periods from 1962 to 1982. While there was a major increase in the provincial share of total government expenditures during the 1960s and the early 1970s, and a corresponding decline in the federal share, there was little further change after 1976. Indeed, since 1976, both orders of government have exercised a significant degree of restraint.

Table 7-27 looks at the growth of public sector employment, one direct indicator of the growth of "bureaucracy". Again growth was considerably greater at the provincial level until the mid-1970s. Federal employment as a percentage of the labour force declined over the entire two decades, and total government employment stayed relatively constant.

**TABLE 7-25 Expenditure Growth Rates of Government
for Selected Intervals, 1962–82: Constant Dollar Terms**

	(average annual per cent increase ^a)		
	1962–68	1969–75	1976–82
Federal	3.5	6.7	2.0
Alberta	8.5	9.0	8.3
British Columbia	5.8	11.5	3.3
Nova Scotia	8.1	7.4	3.9
Ontario	10.2	9.2	0.0
Quebec	13.0	8.5	3.4

Source: Allan M. Maslove, Michael J. Prince, and G. Bruce Doern, *Federal and Provincial Budgeting*, vol. 41, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985). Calculated from Tables A-4, A-6, A-7, A-10, A-11, A-14, and A-24 in the Appendix.

- a. Averages are calculated on the basis of the annual percentage change of gross general expenditure in constant dollars (1971) for each government in each of the interval periods.

**TABLE 7-26 Revenue Growth Rates of Governments for Selected Intervals,
1969–82: Constant Dollar Terms**

	1969–75	1976–82
	(average annual per cent increase ^a)	
Federal	8.3	0.4
Alberta	16.8	7.3
British Columbia	11.0	3.3
Nova Scotia	8.1	1.2
Ontario	8.9	0.0
Quebec	10.3	2.1

Source: Allan M. Maslove, Michael J. Prince, and G. Bruce Doern, *Federal and Provincial Budgeting*, vol. 41, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985). See Tables A-30, A-32, A-33, A-36, A-37 and A-40. We cannot include the 1962–68 interval, as in Table 7-27, because data on total provincial revenue from own sources is not available for years before 1967.

- a. Averages are calculated on the basis of the annual percent change of total revenue from own sources in constant dollars for the provincial governments and the gross general revenue in constant dollars for the federal government.

TABLE 7-27 Total Government Employment

	1960	% LF	1965	% LF	1970	% LF	1975	% LF	1980	% LF	1982	% LF
Labour force (000s)	6 430	—	7 185	—	8 329	—	9 923	—	11 522	—	11 743	—
Federal												
General ^a	203 013	3.2	211 913	3.0	251 237	3.0	323 902	3.3	335 375	2.9	351 295	3.0
Enterprise	131 118	2.0	129 916	1.8	123 906	1.5	132 046	1.3	157 988	1.4	138 281	1.2
Total	334 131	5.2	341 829	4.8	375 143	4.5	455 948	4.6	493 363	4.3	489 576	4.2
Provincial												
General ^b	139 434	2.2	168 536	2.3	216 475	2.6	288 937	2.9	311 634	2.7	317 407	2.7
Enterprise	63 444	1.0	70 281	1.0	95 520	1.1	134 513	1.4	148 105	1.3	159 260	1.4
Total	202 878	3.2	238 817	3.3	311 995	3.7	423 450	4.3	459 739	4.0	476 667	4.1
Local ^c												
General	149 403	2.3	162 901	2.3	201 425	2.4	247 199	2.5	274 126	2.4	287 103	2.4
Enterprise	23 718	0.4	25 860	-0.4	31 976	0.4	39 242	0.4	43 517	0.4	45 577	0.4
Total	173 121	2.7	188 761	2.7	233 401	2.8	286 441	2.9	317 643	2.8	332 680	2.8
Total government												
General	491 850	7.6	543 350	7.6	669 137	8.0	860 038	8.7	921 135	8.0	955 805	8.1
Enterprise	218 280	3.4	226 057	3.2	251 402	3.0	305 801	3.1	349 610	3.0	343 118	2.9
Total	710 130	11.0	769 407	10.8	920 539	11.0	1 165 839	11.8	1 270 745	11.0	1 298 923	11.0

Notes

1. A research study undertaken for this Commission by John Helliwell of the University of British Columbia provides an important exception to this view. See John Helliwell, Mary E. MacGregor, and Tim Padmore, "Economic Growth and Productivity in Canada: 1955 to 1990", in *Economic Growth: Prospects and Determinants*, vol. 22 (Toronto: University of Toronto Press, 1985). Helliwell's analysis, in the Commission study and elsewhere, suggests that the bulk of the post-1973 slow-down in productivity growth can be attributed to weaker cyclical conditions and the energy-price increase. Thus Helliwell sees little basis for the implication that the "underlying" rate of productivity growth decreased after 1973.
2. A fuller discussion of historical and projected demographic trends may be found in this Commission's research study by Douglas S. Green, Judith Gold, and John Sargent, "A Note on Demographic Projections for Canada: Review and Implications", in *Economic Growth: Prospects and Determinants*, vol. 22 (Toronto: University of Toronto Press, 1985).
3. Roughly speaking, the civilian, non-institutional population 15 years of age and over, excluding inhabitants of the Territories and of Indian Reserves, who are not covered by the Labour Force Survey.
4. Roughly speaking, those who work or seek to work.
5. The slight increase in the investment-to-GNE ratio during the latter period is not inconsistent with the slight decrease in the growth rate of the capital stock between these two periods shown in Table 7-16. The larger the initial level of the capital stock relative to GNE, the higher is the ratio of investment to GNE required just to offset depreciation, and the higher is the ratio of net investment to GNE required to maintain a constant growth rate of the capital stock.
6. The savings of the non-resident sector include all forms of investment in Canada, such as non-residents' purchases of bonds, as well as direct investment.
7. Edward F. Denison, *Accounting for Slower Economic Growth: The United States in the 1970s* (Washington, D.C.: Brookings Institution, 1979), and earlier studies.
8. Our analysis of the impact of cyclical factors on labour productivity and total factor productivity depends on our particular assumptions about the extent of the cyclical shortfall in output in 1981. The estimates we use are based on those made by the Department of Finance for purposes of its cyclically adjusted, budget-balance calculations. We believe that they are in the range which would be considered reasonable by a majority of analysts. However, some students of the productivity slow-down, notably John Helliwell of the University of British Columbia, argue that the cyclical shortfall of output in 1981 is much larger than we have assumed and, correspondingly, that the slow-down in cyclically adjusted productivity after 1973 is much less than that shown in our estimates. Hence, as we mentioned in note 1, Helliwell sees little or nothing puzzling about the post-1973 decline in productivity growth.

Business Cycles

Since the Second World War, there have been nine distinct economic growth cycles of varying duration and intensity, including the most recent recession and the ongoing recovery. A growth cycle differs from the classical cycle of ups and downs in the level of activity in that it represents deviations in real economic activity from longer-term trends. A "peak" is thus defined as the maximum deviation above the long-term/growth path and a "trough" as the maximum deviation below. Table 7-28 presents some key data on the post-war growth cycles.

The period from 1947 to early 1953, when the economy converted from a wartime to a peacetime footing, was one of strong and sustained expansion. It was followed by the sharp recession of 1953–54. The brief but vigorous expansion that began in the third quarter of 1954 and ended in the fourth quarter of 1956 was driven primarily by an investment boom. The subsequent recession, which lasted until the third quarter of 1958, was moderate.

TABLE 7-28 Summary of post-War Canadian Growth Cycles

Phase	Date	Duration in Quarters	(change between turning points)		
			Real GNE		Unemploy- ment Rate
			Cumulative	Average Quarterly	
Expansion	1947Q4–53Q2	23	39.1	1.4	—
Contraction	1953Q2–54Q3	5	–1.2	–0.2	2.5
Expansion	1954Q3–56Q4	9	21.5	2.2	–2.1
Contraction	1956Q4–58Q3	7	2.6	0.4	4.3
Expansion	1958Q3–59Q3	4	4.1	1.0	–1.8
Contraction	1959Q3–61Q1	6	1.4	0.2	2.0
Expansion	1961Q1–66Q2	21	41.6	1.7	–4.5
Contraction	1966Q2–68Q1	7	6.0	0.8	1.3
Expansion	1968Q1–69Q1	4	7.9	1.9	–0.2
Contraction	1969Q1–70Q4	7	3.7	0.5	1.8
Expansion	1970Q1–74Q4	13	26.4	1.8	0.9
Contraction	1974Q1–75Q3	6	1.2	0.2	1.8
Expansion	1975Q3–76Q2	3	6.1	2.0	0.0
Contraction	1976Q2–77Q3	5	1.7	0.3	1.3
Expansion	1977Q3–79Q3	8	7.0	0.8	–1.1
Contraction	1979Q3–80Q3	4	0.1	0.0	0.3
Expansion	1980Q3–81Q2	3	4.9	1.6	–0.3
Contraction	1981Q2–82Q4	6	–6.6	–1.1	5.6
Average					
Expansion		9.8	17.6	1.6	–1.4
Contraction		5.9	1.0	0.1	2.3

Source: Calculations by the Commission from National Accounts data.

Note: The dating of growth cycles, except for the 1947Q4 to 1953Q2 expansion, follows the dating in *Royal Bank Trendicator Report* (December 1982).

However, it was not followed by a vigorous recovery, partly, at least, because of the relatively restrictive stance of Canadian monetary policy.

A long and buoyant expansion began in the first quarter of 1961 and continued through the 1960s, with a minor interruption in 1966 and 1967. A mild slow-down in 1969–70 yielded to a period of strong expansion that continued until the first quarter of 1974, when the sharp worldwide recession of 1974–75 took hold in response to the quadrupling of the international price of oil. The recovery from this recession was interrupted by a period of cyclical weakness in 1976 and 1977. Recovery resumed in 1977 and carried on into 1979.

While the brief recession of 1979–80 was relatively mild, the recession of 1981–82 was by far the deepest of the post-war period. Both recessions followed dramatic increases in interest rates. In the earlier of the two, the interest-rate run-up was quickly reversed. The increase in interest rates that triggered the latter recession persisted for an extended period.

Overall, the average expansion lasted about 10 quarters and the average downturn about six quarters. During expansions, the average cumulative increase in real gross national expenditure was 17.6 per cent, or 1.6 per cent per quarter. During contractions, the average cumulative increase fell to 1.0 per cent, or only just above zero per quarter.

The unemployment rate declined by an average of 1.4 percentage points during expansions and rose by 2.3 percentage points during contractions. A troubling feature of the cycles since 1966 has been the small decline in the unemployment rate during expansions and the much larger increases in the unemployment rate during contractions. While a certain proportion of this overall rise in the unemployment rate can be attributed to structural factors, such as the changing age-sex composition of the labour force and the adverse effects on the incentive to work of more generous Unemployment Insurance benefits, a significant share must be attributed to the unsatisfactory cyclical position of the Canadian economy.

The Recent Recession

In order to make a clearer identification of longer-term trends in the economy, our review to this point has excluded the impact of the severe economic downturn that started in the second half of 1981. However, the recent recession has also had an important influence on perceptions about the principal economic issues facing Canada. As we have noted, the 1981–82 downturn was by far the most severe recession Canadians have experienced since the Second World War. Real gross national expenditure (GNE) fell by 4.2 per cent between 1981 and 1982; the only other post-war instance of an absolute decline in output, on an annual basis, occurred in 1954, when real GNE fell by 1.2 per cent during the recession that followed the Korean War. The unemployment rate rose from an annual average of 7.5 per cent in 1981 to 11.9 per cent in 1983, an increase of 4.4 percentage points. This rise compares with an increase of 1.6 percentage points between 1953 and 1954, of 3.7 percentage points between 1969 and 1971, and of 3.1 percentage points between 1974 and 1978.

Furthermore, the recession was much more severe in Canada than it was in the United States, where real GNE fell by only about 2 per cent between 1981 and 1982, and the unemployment rate rose by 2 percentage points. Most of the earlier post-war recessions were milder in Canada than they were in the United States. While other member countries of the Organisation for Economic Co-operation and Development (OECD) also experienced a less-severe annual decline in real output over the 1979–83 period, taken as a whole, than did Canada, the cumulative decline in the United Kingdom over 1980 and 1981 approached the extent of the 1982 decline in Canada. Many Western European countries experienced as large, or larger, increases in unemployment over the 1979–83 period. In fact, some of the smaller European countries, notably Belgium and the Netherlands, now have unemployment rates well above Canadian levels, whereas their rates were, on average, well below Canadian levels throughout the 1960s and 1970s. During and after the recession, inflation fell sharply in the United States, the United Kingdom, and Canada, and declined somewhat from lower initial levels in Germany and Japan. France and Italy have made comparatively less progress to date in bringing down inflation.

While a full analysis of the reasons for the greater severity of the recession in Canada is beyond the scope of this review, a number of the more important reasons should be mentioned. There was a sharp tightening of monetary policy and some tightening of fiscal policy after 1979, in both Canada and the United States. Canada, however, appears to have experienced a stronger inflationary boom in late 1980 and early 1981 than did the United States; this boom became apparent in a speculative rise in housing prices in a number of Canadian cities, in a wave of business take-overs in Canada, and in a greater build-up of inventories in Canada than in the United States. Thus the Canadian economy had further to fall when monetary curbs finally took hold. The overextension of certain sectors added to the severity of the adjustment. Prices and wages did not respond as quickly in Canada as they did in the United States to the increased slack in the economy, with the result that the restraint did more initially to reduce real output. In part, the smaller initial decline in Canada's inflation reflected the unfortunate coincidence that the delayed rise in energy prices in Canada was concentrated in the recession and immediate pre-recession periods. The slower decline may also indicate that prices and wages are inherently less flexible in Canada than they are in the United States. In any event, rates of price and wage increase in Canada have now declined very sharply.

The severity of the recession, coupled with the projection by most analysts of only a gradual decline in unemployment from the current high levels, has made unemployment Canada's single most important, public economic concern. Canadians fear that employment in a number of industries will not return to pre-recession levels, and that the "shake-out" forced on these industries will result in future loss of jobs, thus further slowing any return to high employment. At this early stage, it is still very difficult to distinguish the effects of the recession from more fundamental changes. So far there is little hard evidence of any increase in the pace of technological change and job displacement for the economy as a whole. If anything, the slow-down in

productivity growth over the past decade has tended to retard job displacement.

The International Economic Environment and International Comparisons

As we have noted in Chapter 2, most developed market economies have experienced the same broad trends during the post-war period as those we have outlined for Canada: relatively rapid real growth of output and productivity, on average, until 1973, followed by a slow-down; higher unemployment and inflation rates over the last decade; a decline in the relative importance of the agricultural sector and an increase in the importance of the service sector; and an increase in the openness of the economy, as measured by the ratio of international trade to gross national product (GNP).

Table 7-29 shows the ratios of trade to GNP for 19 OECD countries. Openness has increased less in Canada since the pre-war era than in most other countries because Canada's ratio of trade to GNP was already high before the war. Canada is one of the more open, larger economies, although the Federal Republic of Germany, Italy and the United Kingdom now have similar ratios of trade to GNP. The ratios of several of the smaller European countries, especially those that belong to the European Community, are substantially higher than Canada's. Nonetheless, Canada may be considerably more vulnerable to international developments than the countries mentioned above, since it is unique among Western industrialized nations (except for Australia) in not having secure access to a market of 100 million people or more.

The international trends are of interest both because they exert major influences on the Canadian economy, and because they provide an international perspective on Canadian performance. The relatively rapid growth in the economies of Canada's trading partners before 1973 was critical to our favourable economic performance over that period. The slower world growth served to lower Canada's growth possibilities. Although our flexible exchange rate precluded any direct link between Canadian inflation and foreign inflation, it is clear that an increasingly inflationary world environment and, particularly, the international oil-price shocks added to the inflationary pressures in Canada.

Table 7-30 shows changes in the main economic indicators for Canada, the other six largest Western industrialized countries, and the OECD as a whole over the periods 1960-68, 1968-73, and 1973-79; it also provides annual data for the years from 1980 to 1984. In the years preceding 1973, Canada's real growth was above both the average for the seven largest OECD countries and the average for the OECD as a whole. Our growth in employment was the highest of all OECD nations, and our productivity growth, while somewhat below the OECD average, compared favourably with that of the United States. Canadian unemployment rates were higher than those in most OECD countries, but similar, on average, to U.S. rates. Inflation tended to be lower

TABLE 7-29 International Comparisons of Foreign Trade in Goods and Services as a Percentage of GNP in 19 OECD Countries, 1929, 1938, and 1976-78^a

	1929	1938	Avg. 1976-78
Australia ^b	19.3	18.3	17.1
Austria	N.A.	17.6 ^c	35.6
Belgium	N.A.	28.2	56.3
Canada	29.0	24.3	26.4
Denmark	N.A.	26.2	33.5
France	N.A.	13.1	21.9
Germany	N.A.	16.5 ^d	26.3
Greece	N.A.	17.8	21.2
Iceland	N.A.	46.8	42.1
Ireland	N.A.	25.5	57.7
Italy	N.A.	7.6	26.8
Japan	19.4	19.7	12.3
Netherlands	N.A.	28.1	49.0
Norway	33.6	29.2 ^e	48.6
Portugal	N.A.	13.0	26.6
Sweden	N.A.	20.1 ^f	30.2
Switzerland	N.A.	17.9	35.9
United Kingdom	N.A.	16.9	32.2
United States	6.3	4.3	10.1
All countries ^g	N.A.	20.6	32.1

Source: United States, Congress, Joint Economic Committee, *The Business Cycle and Public Policy, 1929-80* (Washington, D.C.: U.S. Government Printing Office, 1980) p. 83.

Note: N.A. = not available.

- a. Percentages are based on data in current prices. Trade is defined as one-half of the sum of exports and imports of goods and services, including merchandise, non-monetary gold, freight, other transportation, travel, investment income in gross amounts received and paid, and other current public and private services.
- b. Fiscal years ending June 30.
- c. 1937.
- d. 1936.
- e. 1939.
- f. Based on GNP for fiscal year.
- g. Unweighted averages of percentages for all countries.

in Canada and the United States than in the other OECD countries. There was virtually universal increase in inflation between the 1960-68 and 1968-73 periods, and there was a notable decline in productivity growth in the United States between these two periods.

As we have remarked, economic performance throughout the world tended to deteriorate after 1973. While Canada maintained high employment growth in relative terms—a circumstance that reflected our high labour-force growth—our productivity performance declined slightly more than the average. If 1980 and 1981 are added to the 1973-79 period, productivity growth in Canada actually fell below the U.S. average.

TABLE 7-30 International Comparisons: Main Economic Indicators

	1960- 1968	1968- 1973	1973- 1979	1980	1981	1982	1983	1984
	(annual average)							
Growth in real GNE/GDP								
United States	4.5	3.3	2.6	-0.2	2.5	-2.1	3.7	6.8
Japan	10.5	8.8	3.6	4.9	4.0	3.3	3.0	5.8
Germany	4.2	4.9	2.4	1.8	-0.2	-1.1	1.3	2.5
France	5.4	5.9	3.1	1.1	0.2	2.0	0.7	1.8
United Kingdom	3.1	3.1	1.4	-2.6	-1.5	2.5	3.2	2.0
Italy	5.7	4.6	2.6	3.9	0.1	-0.4	-1.2	3.0
Canada	5.6	5.6	3.4	1.0	3.3	-4.4	3.3	4.3
Total OECD	5.1	4.8	2.7	1.3	1.7	-0.3	2.6	4.8
Growth in productivity^a								
United States	2.6	1.2	0.2	-0.7	1.4	-1.3	2.4	2.5
Japan	8.9	7.7	2.9	3.9	3.2	2.2	1.3	5.3
Germany	4.3	4.1	3.0	0.8	0.6	0.7	3.1	3.0
France	4.9	4.8	2.9	1.1	1.0	1.8	1.5	2.8
United Kingdom	2.7	3.0	1.2	-2.4	2.0	4.1	3.6	1.0
Italy	6.3	4.9	1.6	2.4	-0.3	0.0	-1.3	3.0
Canada	2.7	2.7	0.5	-1.9	0.5	-1.2	2.5	2.0
Total OECD	4.1	3.5	1.6	0.6	1.4	0.2	2.2	3.3
Employment growth								
United States	1.8	2.1	2.5	-0.5	1.1	-0.9	1.3	4.3
Japan	1.5	0.9	0.7	1.0	0.8	1.0	1.7	0.5
Germany	-0.1	0.7	-0.6	1.0	-0.8	-1.8	-1.7	-0.3
France	0.4	1.0	0.2	-	-0.8	0.1	-0.8	-1.0
United Kingdom	0.3	0.2	0.2	-0.3	-3.4	-1.5	-0.4	1.0

Italy	-0.6	-0.2	1.0	1.5	0.5	-0.4	0.1	0.0
Canada	2.8	2.8	2.9	3.0	2.8	-3.3	0.8	2.3
Total OECD	1.0	1.2	1.1	0.7	0.4	-0.5	0.4	1.5

Standardized unemployment rates^b

United States	5.0	4.6	6.7	7.0	7.6	9.7	9.6	7.5
Japan	1.2	1.2	1.9	2.0	2.2	2.4	2.6	2.7
Germany	0.6	1.0	3.2	3.0	4.4	6.1	8.0	8.1
France	1.7	2.5	4.5	6.3	7.3	8.0	8.0	8.9
United Kingdom	2.5	3.5	5.3	6.9	10.6	12.3	13.1	13.2
Italy	5.1	5.7	6.5	7.4	8.3	8.9	9.7	10.6
Canada	4.8	5.4	7.2	7.5	7.5	11.1	11.9	11.5
Total OECD	2.7	3.2	4.9	5.8	6.7	8.2	8.7	8.3

Consumer price inflation

United States	2.0	5.0	8.5	13.5	10.4	6.1	3.2	4.2
Japan	5.7	7.0	10.0	8.0	4.9	2.7	1.9	2.3
Germany	2.7	4.6	4.7	5.5	6.3	5.3	3.3	1.5
France	3.6	6.1	10.7	13.6	13.4	11.8	9.6	7.1
United Kingdom	3.6	7.5	15.6	18.0	11.9	8.6	4.6	4.7
Italy	4.0	5.8	16.1	21.2	17.8	16.6	14.6	9.9
Canada	2.4	4.6	9.2	10.2	12.5	10.8	5.9	3.8
Total OECD	2.9	5.6	10.0	12.9	10.5	7.8	5.3	5.0

Total government expenditures as a percentage of GNP/GDP^c

United States	28.8	31.7	33.7	35.0	35.3	37.6	—	—
Japan	19.0	20.4	28.5	32.4	34.5	34.5	—	—
Germany	35.8	39.8	47.5	48.3	49.3	49.4	—	—
France	37.4	39.0	43.7	46.4	49.2	50.7	—	—
United Kingdom	34.8	39.8	44.6	45.4	48.0	47.4	—	—
Italy	31.9	36.0	42.9	46.1	51.2	53.7	—	—
Canada	29.8	35.3	39.7	41.0	41.5	45.8	—	—
Total OECD	29.9	32.9	37.7	40.2	40.9	42.5	—	—

TABLE 7-30 (cont'd.)

	1960- 1968	1968- 1973	1973- 1979	1980	1981	1982	1983	1984
	(annual average)							
Total government-budget balances as a percentage of GNP/GDP								
United States	—	—	—	-1.2	-0.9	-3.8	-4.1	-3.2
Japan	—	—	—	-4.5	-4.0	-3.4	-3.3	-2.2
Germany	—	—	—	-3.1	-3.8	-3.4	-2.7	-1.7
France	—	—	—	0.2	-1.8	-2.5	-3.4	-3.5
United Kingdom	—	—	—	-3.8	-3.1	-2.4	-3.3	-3.1
Italy	—	—	—	-8.0	-11.9	-12.7	-11.8	-13.5
Canada	—	—	—	-2.7	-1.6	-5.0	-6.2	-6.0
Total OECD	—	—	—	-2.4	-2.7	-4.1	-4.4	-3.8

Sources: Organisation for Economic Co-operation and Development, *Historical Statistics, 1960-81* (Paris: OECD, 1983), p. 41; *Historical Statistics, 1960-1982* (Paris: OECD, 1984), pp. 26, 39, 41, 44, 47, 64, 83; and *Economic Outlook, December 1984* (Paris: OECD, 1984), pp. 29, 43, 50, 51, 68, 173, 175, 177.

Note: Average growth rates are compound annual rates from level in year before first year of period specified to level in final year of period specified.

a. Productivity increased as real GNP/GDP per member of the civilian labour force.

b. Standardized unemployment rates for all but United States and Canada are actual, which correspond closely to the OECD standardized concept. Figures for 1984 are estimates based on gap between actual and standardized unemployment rates in 1983. Average standardized unemployment rates are for 1960-67, rather than 1960-68.

c. Data are for 1960-67, rather than 1960-68.

The percentage rise in unemployment in Canada after 1973 was similar to that experienced elsewhere, as was the increase in the average rate of inflation. In both instances, however, there was some deterioration relative to the performance of the United States. The structural changes in our Canadian Unemployment Insurance system may explain most of the increase in our unemployment rate relative to that of the United States. Germany, Austria, the Netherlands and Switzerland managed to avoid much increase in the rate of inflation.

Comparisons with other OECD countries indicate that the economic problems experienced in Canada since 1973 have been widely shared. However, there is at least a hint of a tendency for Canadian performance to deteriorate relative to the OECD average, especially in the areas of productivity growth and inflation. This possible tendency is all the more disturbing because Canada's energy self-sufficiency meant that we were not as adversely affected by the energy shock as were most other OECD countries. On the other hand, our improvement in relative inflation performance in 1984 augurs well for the future.

Government expenditure as a proportion of GNP has risen somewhat more in Canada since 1973 than it has in the OECD countries considered as a group; the difference between the two ratios was especially great during the 1981-82 recession. The increase in Canada since 1973 has been much greater than the increase in the United States. The level of government spending in relation to GNP is higher in Canada than it is in the United States and Japan, but lower than it is in Germany, France, the United Kingdom and Italy.

Canada has experienced a marked increase in the total government deficit as a percentage of GNP. In 1984, our percentage was twice that of the United States. The only major industrialized country with a proportionately larger deficit in 1984 was Italy.

General Observations on Recent Performance

Over the post-Second World War period, Canada has adjusted to major structural changes in the economy. We have also enjoyed broadly distributed gains in economic welfare. One of the economy's most notable achievements has been its provision of a high rate of employment growth in the face of a high rate of growth in labour-force supply. While the economy has not created jobs for all new entrants to the labour force, until the recession struck in 1981, it had at least created jobs for the great majority. Few of the economic projections made in the late 1950s and early 1960s anticipated the extent to which employment (or the labour force) would grow in the 1960s and 1970s. Except for the "supply siders", who believe that supply creates its own demand, economists do not claim to have fully satisfactory empirical models of the process by which jobs are created and the relationship of that process to labour-force growth. We shall consider this issue further in Chapter 8.

Although economic progress during the post-war period has been impressive, and the economy has been successful in making major adjustments to changing conditions, a number of developments over the past decade

have given rise to concern. If productivity growth were to stay at the low level of the past decade, Canadians could not look forward to any appreciable further gains in their standard of living. Inflation has proved to be very stubborn, confronting Canadians with the difficult choice between living with a relatively high rate of inflation, with all of its potential long-term social and economic dangers, and paying the heavy short- to medium-term costs of achieving lower inflation. Although the growth of employment in Canada during the post-war period has substantially exceeded that of most other industrial countries, our level of unemployment has generally been at the high end of the range of international experience. The introduction of restrictive monetary and fiscal policies in order to curtail inflation has driven unemployment even higher.

Recent developments have altered the emphasis that Canadians give to each of these concerns. Before the recession, most observers held that the most disturbing aspects of Canadian economic performance were the low rate of productivity growth and the stubbornness of inflation. Especially worrisome was the apparent deterioration in Canada's performance relative to the performances of the United States and many other countries. Nevertheless, productivity growth since 1981 has not been as low as might have been expected, given the severity of the recession, and a major reduction in inflation has occurred. On the other hand, unemployment has become an ever-more-pressing concern.

Overall Prospects for the Economy

Population Projections, 1981–2030

A good understanding of likely demographic developments is a necessary first step in forming a view about our Canadian economy's long-term prospects, though our demographic future is only somewhat less uncertain than our economic future. To provide an indication both of our demographic prospects and of the degree of uncertainty about these prospects, we shall consider four recent official Statistics Canada demographic projections for the period from 1981 to 2030. These projections differ in their assumptions about the fertility rate, the mortality rate, and net immigration. We shall also consider very long-run demographic projections to the year 2100, underlying the Statutory Actuarial Report No. 8 of the Canada Pension Plan.

The four Statistics Canada demographic projections are as follows:

- *A low-fertility,¹ low-immigration case.* It assumes that the fertility rate will decline to 1.4 by 1996, dropping from the 1981 level of 1.7, and that thereafter it will remain constant. Net immigration is set at 50 000 entrants per year throughout the projection period.
- *A medium-fertility, low-immigration case.* It assumes a fertility rate of 1.6 throughout the entire projection period and the same net immigration postulated in the first projection.
- *A medium-fertility, high-immigration case.* It uses the same fertility rate as the second projection and assumes that net immigration will increase

from 45 000 in 1983 to 100 000 in 1994 by increments of 5000; after 1994, immigration will remain constant.

- *A high-fertility, high-immigration case.* It assumes a fertility rate of 1.6 until 1985, increasing to 2.2 by 1996, and remaining constant thereafter; net immigration remains the same as it was in the third projection.

All the projections use the same mortality rate. They assume that the rate will decrease more slowly than it did between 1976 and 1981. They also assume that the difference between male and female life expectancy at birth will narrow slightly: life expectancy will rise by 1996 to 74.9 years for males (from 71.9 in 1981) and to 81.5 for females (from 78.9 in 1981).

The Canada Pension Plan (CPP) projection assumes that the fertility rate will increase to approximately 2.0 by 1999 and remain constant thereafter. It further assumes that net immigration throughout the entire projection period will equal 0.32 per cent of the total population, and that the mortality rate will decline moderately.

A cursory examination of the five projections, which are set out in Tables 7-31 to 7-35, reveals a number of similarities among them:

- The proportion of Canadians aged 65 and older rises continuously in all of the projections from 1981 to 2030, with particularly large increases from 2010 to 2030. This represents a continuation of the trend in the 1921–81 period. The share of the aged-65 and older group increases substantially over the 1980s. In the 1990s, the rate of increase in this group's share declines as a result of the births to the baby-boom generation and the advance to retirement age of the relatively small age cohort born in the 1930s. After 2010, as the baby-boom generation reaches the age of retirement, the proportion of those aged 65 and older within the total population again expands significantly.
- All projections indicate that the shares of the population represented by the two younger-age categories (0–14 years and 15–24 years) will decline continuously, or virtually continuously, until the year 2030.
- The share of the population aged 25–64 increases until the year 2010 and declines thereafter, except in the high-fertility, high-net/immigration case, where this share decreases slowly and steadily after 1990.
- In none of the projections is the proportion of the working-age population (15–64 years) smaller than it was in 1961; for three of the four Statistics Canada projections, this proportion falls below the 1971 proportion only in 2030.

Of course, the extent and the rapidity of these trends vary significantly with the assumptions that underlie each projection. In the low-fertility, low-immigration projection for 2030, for example, the share of those aged 14 and under is 12.2 per cent, while in the high-fertility, high-immigration projection, the corresponding figure is 20.7 per cent. The fertility-rate assumptions determine most, but not all, of this difference: the immigration assumptions also play a part, since the immigrant population is younger than the population as a whole. This point becomes clear when we compare the medium-fertility, high-immigration projection with the medium-fertility, low-immigration projection. In the first projection, the population share of

TABLE 7-31 Population Projections by Age Group Level, Rate of Growth and Percentage Share: Low Fertility, Low Immigration

Year	Total			0 to 14			15 to 24			25 to 64			65 +		
	Pop. ('000)	Average Annual Growth Rate ^a	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	Pop. ('000)
1981	24 343	1.2	5 481	-1.5	22.5	4 659	1.5	19.1	11 842	2.3	48.6	2 361	3.1	9.7	
1990	26 428	0.9	5 404	0.1	20.4	3 842	-2.1	14.5	14 097	2.0	53.3	3 086	3.0	11.7	
2000	27 741	0.5	4 730	-1.3	17.1	3 716	-0.8	13.4	15 462	0.9	55.7	3 830	2.2	13.8	
2010	28 203	0.2	4 006	-1.6	14.2	3 435	-0.8	12.2	16 315	0.5	57.9	4 449	1.5	15.8	
2020	28 004	-0.1	3 755	-0.6	13.4	2 797	-2.0	10.0	15 725	-0.4	56.2	5 733	2.6	20.5	
2030	26 948	-0.4	3 285	-1.3	12.2	2 663	-0.5	9.9	13 950	-1.2	51.8	7 064	2.1	26.2	

Sources: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Table 1.7, and *Population Projections for Canada, Provinces and Territories 1984 to 2006* (Ottawa: Minister of Supply and Services Canada, forthcoming), Projection Series Number 1.

a. For the preceding 10 years, with the exception of 1990, which is for the preceding 9 years.

TABLE 7-32 Population Projections by Age Group Level, Rate of Growth and Percentage Share: Medium Fertility, Low Immigration

Year	Total			0 to 14			15 to 24			25 to 64			65 +		
	Pop. ('000)	Average Annual Growth Rate ^a	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	
1981	24 343	1.2	5 481	-1.5	22.5	4 659	1.5	19.1	11 842	2.3	48.6	2 361	3.1	9.7	
1990	26 558	1.0	5 534	0.1	20.8	3 842	-2.1	14.5	14 097	2.0	53.1	3 086	3.0	11.6	
2000	28 397	0.7	5 377	-0.3	18.9	3 727	-0.3	13.1	15 462	0.9	54.5	3 831	2.2	13.5	
2010	29 447	0.4	4 884	-1.0	16.6	3 789	0.2	12.9	16 325	0.5	55.4	4 449	1.5	15.1	
2020	30 005	0.2	4 817	-0.1	16.1	3 369	-1.2	11.2	16 086	-0.1	53.6	5 733	2.6	19.1	
2030	29 839	-0.1	4 587	-0.5	15.4	3 315	-0.2	11.1	14 873	-0.8	49.8	7 064	2.1	23.7	

Sources: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Table 1.7, and *Population Projections for Canada, Provinces and Territories 1984 to 2006* (Ottawa: Minister of Supply and Services Canada, forthcoming), Projection Series Number 1.

a. For the preceding 10 years, with the exception of 1990, which is for the preceding 9 years.

TABLE 7-33 Population Projections by Age Group Level, Rate of Growth and Percentage Share: Medium Fertility, High Immigration

Year	Total				0 to 14				15 to 24				25 to 64				65+			
	Pop. ('000)	Average Annual Growth Rate ^a	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.	Pop. ('000)	Average Annual Growth Rate ^a	% of Pop.
1981	24 343	1.2	5 481	-1.5	22.5	4 659	1.5	19.1	11 842	2.3	48.6	2 361	3.1	9.7						
1990	26 648	1.0	5 561	0.2	20.9	3 859	-2.1	14.5	14 144	2.0	53.1	3 084	3.0	11.6						
2000	29 011	0.9	5 565	0.0	19.2	3 814	-0.1	13.1	15 822	1.1	54.5	3 811	2.1	13.1						
2010	30 730	0.6	5 229	-0.6	17.0	3 988	0.4	13.0	17 108	0.8	55.7	4 404	1.5	14.3						
2020	32 034	0.4	5 290	0.1	16.5	3 682	-0.8	11.5	17 365	0.1	54.2	5 696	2.6	17.8						
2030	36 672	0.2	5 193	-0.2	15.9	3 711	0.1	11.4	16 647	-0.4	51.0	7 122	2.3	21.8						

Sources: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Table 1.7, and *Population Projections for Canada, Provinces and Territories 1984 to 2006* (Ottawa: Minister of Supply and Services Canada, forthcoming), Projection Series Number 1.

a. For the preceding 10 years, with the exception of 1990, which is for the preceding 9 years.

TABLE 7-34 Population Projections by Age Group Level, Rate of Growth and Percentage Share: High Fertility, High Immigration

Year	Total			0 to 14			15 to 24			25 to 64			65+		
	Pop. (^{'000})	Average Annual Growth Rate ^a	Pop. (^{'000})	Average Annual Growth Rate ^a	% of Pop.	Pop. (^{'000})	Average Annual Growth Rate ^a	% of Pop.	Pop. (^{'000})	Average Annual Growth Rate ^a	% of Pop.	Pop. (^{'000})	Average Annual Growth Rate ^a	% of Pop.	
1981	24 343	1.2	5 481	-1.5	22.5	4 659	1.5	19.1	11 842	2.3	48.6	2 361	3.1	9.7	
1990	26 749	1.1	5 662	0.4	21.2	3 859	-2.0	14.4	14 144	2.0	52.9	3 084	3.0	11.5	
2000	29 967	1.1	6 519	1.4	21.8	3 814	-0.1	12.7	15 822	1.1	52.8	3 811	2.1	12.7	
2010	32 690	0.9	6 736	0.3	20.6	4 440	1.5	13.6	17 109	0.8	52.3	4 406	1.5	13.5	
2020	35 360	0.8	7 177	0.6	20.3	4 669	0.5	13.2	17 815	0.4	50.4	5 599	2.6	16.1	
2030	37 846	0.7	7 818	0.9	20.7	4 830	0.3	12.8	18 071	0.1	47.8	7 127	2.3	18.8	

Sources: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Table 1.7, and *Population Projections for Canada, Provinces and Territories 1984 to 2006* (Ottawa: Minister of Supply and Services Canada, forthcoming), Projection Series Number 1.

a. For the preceding 10 years, with the exception of 1990, which is for the preceding 9 years.

TABLE 7-35 Population Projections by Age Group Level, Rate of Growth and Percentage Share: CPP 'Case' Projection

Year	Total				0 to 14				15 to 24				25 to 64				65+			
	Pop. (^{'000})	Average Annual Growth Rate ^a	Pop. (^{'000})	% of Pop.	Average Annual Growth Rate ^a	Pop. (^{'000})	% of Pop.	Average Annual Growth Rate ^a	Pop. (^{'000})	% of Pop.	Average Annual Growth Rate ^a	Pop. (^{'000})	% of Pop.	Average Annual Growth Rate ^a	Pop. (^{'000})	% of Pop.	Average Annual Growth Rate ^a	Pop. (^{'000})	% of Pop.	Average Annual Growth Rate ^a
1981	24 342	1.2	5 477	22.5	-1.5	4 649	19.1	1.5	11 830	48.6	2.3	2 361	3.1	9.7						
1990	27 333	1.3	5 935	21.7	0.9	3 966	14.5	-1.7	14 463	52.9	2.3	2 969	2.6	10.9						
2000	29 991	0.9	6 319	21.1	0.6	4 059	13.5	0.2	16 042	53.5	1.0	3 571	1.9	11.9						
2010	32 352	0.8	6 345	19.6	0.0	4 477	13.8	1.0	17 349	53.6	0.8	4 181	1.6	12.9						
2020	34 666	0.7	6 726	19.4	0.6	4 461	12.9	0.0	17 881	51.6	0.3	5 598	3.0	16.2						
2030	36 688	0.6	7 043	19.2	0.5	4 694	12.8	0.5	17 762	48.4	-0.1	7 189	2.5	19.6						
2040	38 424	0.5	7 277	18.9	0.3	4 977	13.0	0.6	18 615	48.4	0.5	7 555	0.5	19.7						
2050	40 134	0.4	7 673	19.1	0.5	5 111	12.7	0.3	19 618	48.9	0.5	7 732	0.2	19.3						
2060	41 895	0.4	8 006	19.1	0.4	5 387	12.9	0.5	20 352	48.6	0.4	8 150	0.5	19.5						
2070	43 811	0.5	8 346	19.1	0.4	5 641	12.9	0.5	21 337	48.7	0.5	8 487	0.4	19.4						
2080	45 827	0.5	8 754	19.1	0.5	5 862	12.8	0.4	22 335	48.7	0.5	8 876	0.4	19.4						
2090	47 890	0.4	9 136	19.1	0.4	6 155	12.9	0.5	23 281	48.6	0.4	9 318	0.5	19.5						
2100	50 069	0.4	9 548	19.1	0.4	6 429	12.8	0.4	24 381	48.7	0.5	9 711	0.4	19.4						

Sources: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Table 1.7, and *Population Projections for Canada, Provinces and Territories 1984 to 2006* (Ottawa: Minister of Supply and Services Canada, forthcoming), Projection Series Number 5.

a. For the preceding 10 years with the exception of 1990, which is for the preceding 9 years.

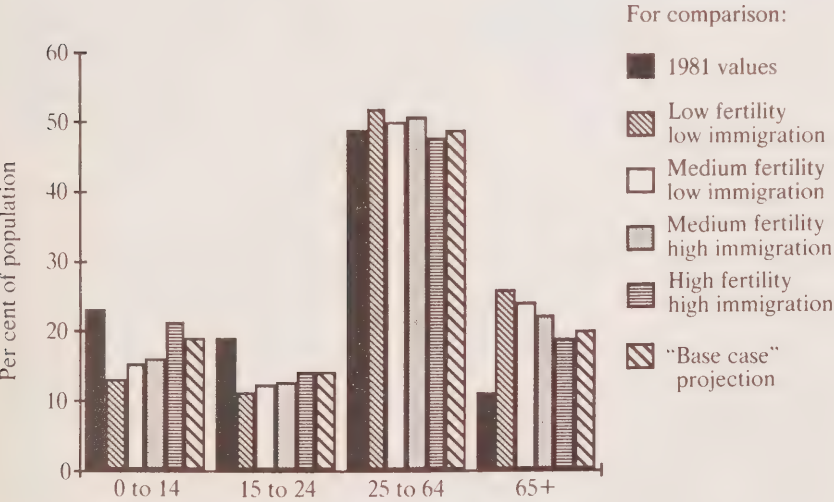
Canadians under 65 in 2030 is 78.3 per cent; in the second projection, their share is 76.3 per cent. Figure 7-5 illustrates the distribution of the age groups in 2030, under each of the Statistics Canada projections, and provides a comparison with the situation in 1981.

The projections also differ substantially in their conclusions about total population growth. In the low-fertility case, the total population starts to decline after 2010; the medium-fertility, low-immigration case shows a slight decline after 2020. The other cases project continuing, though modest, growth of total population.

Given constant age-specific rates of fertility, mortality and immigration, a population will eventually approach a “steady state” characterized by a roughly constant growth rate and constant age-group shares. Most of the projections assume something like constancy in fertility rates, mortality rates and net immigration rates after 2000; in the very long-term CPP projection shown in Table 7-35, a steady state appears to set in after about 2030, by which time there would be relatively few survivors of the baby-boom cohort of the 1940s to 1960s.

Whether such steady-state projections show continuing growth or decline in total population depends, subject to a qualification for immigration, on whether the fertility rate exceeds or falls short of the “replacement value” of

FIGURE 7-5 Percentage Share of Selected Age Groups, 1981 and Alternative Projections for 2030



Source: *Historical Compendium*, 1.7, Statistics Canada; *Components of Population Growth, 1983-2006*, Statistics Canada, Demography Division; *Components of Population Growth, 1983-2031*, Statistics Canada, Demography Division (Unpublished); and Department of Insurance.

2.1 children per woman.² In the CPP projection illustrated in Table 7-35, the assumed fertility rate of 2.0 per cent is marginally below the replacement value, but this difference is more than offset by the assumption that net immigration will occur at an annual rate of 0.32 per cent.

Several general conclusions about Canada's population outlook can be drawn from the demographic projections we have just reviewed. The medium-fertility assumption of 1.6 children per woman is very close to the latest observed rate, but it is clearly possible that fertility will either drop below the rate of 1.4 per cent projected in the low-fertility case or rise above the assumed rate of 2.2 per cent in the high-fertility case. Even so, the following generalizations can be offered:

- A substantial increase over the next 50 years in the population share of those aged 65 and over is a virtual certainty; but the increase in this share by 2030 could range from a doubling to somewhat less than a tripling relative to the current ratio. The most dramatic increase in the share will occur between 2010 and 2030.
- A period of several decades of virtually continuous decline in the absolute numbers of the 0–14 and 15–24 age groups—and hence a more dramatic decline in their shares—is a very real possibility.
- If fertility and net immigration rates stabilize in the near future, the population will approach a “steady state” configuration by about 2030; that is, age-group shares will remain, thereafter, at approximately their 2030 levels.
- Canada's total population will almost certainly continue to grow, but at continuously declining rates, until at least 2010, when it will probably have reached a range of 28 million to 32 million. Given low fertility, the total population will then tend to decline slowly. Given medium fertility, which is still below the replacement rate, the total population will eventually start to decline if the net immigration rate (relative to total population) is lower than the average rate over the post-war period. Total population will stabilize or continue to grow very slowly if the net immigration rate continues at the average post-war rate.

Long-Term Economic Projections, 1984–2000

Many government agencies and private sector consulting firms regularly provide projections and analyses of the Canadian economy's short- and longer-term growth prospects. This Commission decided that it would be more efficient to draw on this available expertise and to make use of existing sources of information than to develop its own independent forecasting capability. In any event, the latter course would have required much more time and resources than were available for the task.

As part of our effort to gather information on the longer-term outlook, this Commission convoked a conference of forecasters. Three leading, private sector, forecasting groups were invited to present their current views of likely long-term/growth paths for the economy. These groups were Data Resources Incorporated, Informetrica Limited, and the Institute for Policy Analysis at the University of Toronto. A number of specialists in particular sectors of the

economy were also asked to attend in order to comment on the prospects for their sectors. The material presented at this conference, as up-dated in late 1984 and augmented by a long-term projection prepared by Chase Econometrics Canada, provides a reasonable indication of the general nature of economic projections currently available from expert analysts.³

Before we discuss the prospects for the economy, it is useful to consider the nature of long-term projections. Experience with medium- and long-term projections prepared by the Royal Commission on Canada's Economic Prospects (the Gordon Commission), the Economic Council of Canada, and a number of other agencies in more recent years, as well as experience in other countries, suggests that while carefully prepared projections provide some basis for identifying likely future trends, such projections are subject to substantial margins of error.

There are some noteworthy examples of the failure of projections to anticipate major new developments. Both the post-war rise in birth rates and their decline in the late-1960s came as surprises to Canadians. Neither the dramatic rises in oil prices of 1973 and 1979-80, nor the significant decline in real oil prices from 1980-81 peak levels were built into short-term forecasts, to say nothing of long-term projections. Finally, it was the common practice in the early 1970s to project the continuation of experience approximating the average productivity growth of the 1950s and 1960s.

In spite of their shortcomings, however, long-term projections are useful. They represent considered and consistent views of future developments. Thus they are likely to be closer to the mark than less-sophisticated and less-systematic methods of anticipating future developments. The future is inherently unknowable, but it is necessary to have some forward view. In developing such a view, it is important to take advantage of the best information available. It is in this spirit that Commissioners consider long-term projections here. These projections assume a continuation of existing policies and programs. They also assume that there will be no major changes in the external environment facing the Canadian economy.

The average of the four long-term projections considered by this Commission is presented in Table 7-36. The annual growth rate of real gross national expenditure (GNE) is expected to decline from about 3 per cent, on average, over the late-1980s, to 2.6 per cent in the 1990s, as Figure 7-6 illustrates. This rate of decline is significantly slower than the annual growth of 4.25 per cent achieved, on average, over the 1956-81 period. Projected real growth for the late 1980s is roughly similar to the growth forecast for this period by the Minister of Finance, in November 1984, in *A New Direction for Canada: An Agenda for Economic Renewal*.

The growth of real GNE depends on the growth of employment and productivity, among other factors, as shown in Figure 7-7. Employment growth is expected to decline from an annual average of 2.8 per cent over the 1966-81 period to 2.1 per cent in the late 1980s, and to 1.4 per cent in the 1990s. Annual productivity growth is expected to average about 1 to 1.5 per cent for the balance of the century, a moderately higher rate than the average rate for the past decade. This means that declining employment growth alone will be more than sufficient to account for the projected decline in Canada's real output growth.

TABLE 7-36 Average of Four Long-Term Projections: Main Economic Indicators, 1984–2000

	1984–90	1990–2000
Real GNE	3.0	2.6
Employment	2.1	1.4
Unemployment rate (level)	9.7	7.5
Consumer price index	4.9	5.1

Sources: Peter Dungan, "Outlook for the Canadian Economy Through 2005" (Toronto: University of Toronto, Institute for Policy Analysis, 1983); T.W. McCormack, "The Next 25 Years", *Canadian Review* (Fall 1983); Informetrica, "Post 11-83 Reference Forecast" (Ottawa: Informetrica, National Forecast Service, 1984); and Chase Econometrics Canada.

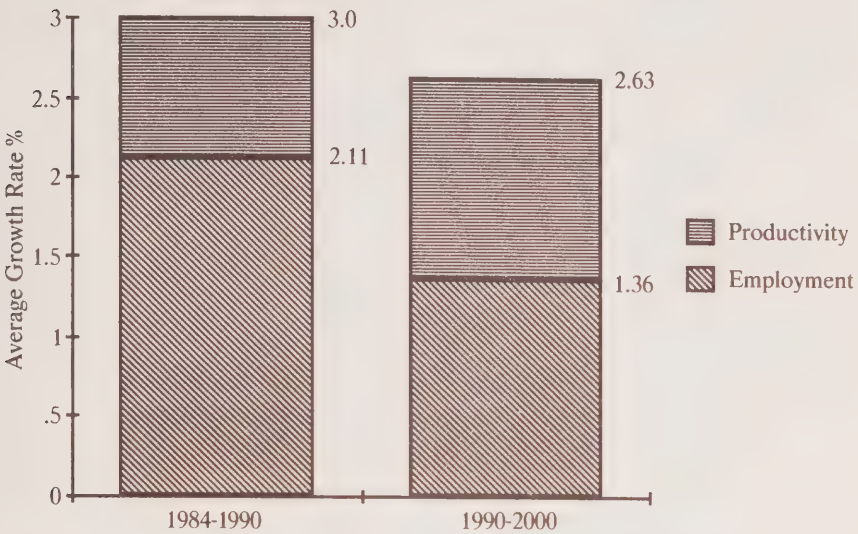
The anticipated sources of the decreased employment growth are present in Figure 7-8. One factor is an anticipated decline in population growth from an average of about 0.9 per cent per year in the late 1980s, to 0.7 per cent in the 1990s. Forecasters also expect a slight slowing of growth in the labour-force/participation rate as a consequence of less-rapid growth in the female participation rates and some long-term decline in the male participation rate.⁴ Employment growth is expected to exceed labour-force growth by a small but significant margin for the balance of this century.

FIGURE 7-6 Real Gross National Product: Average of Four Projections



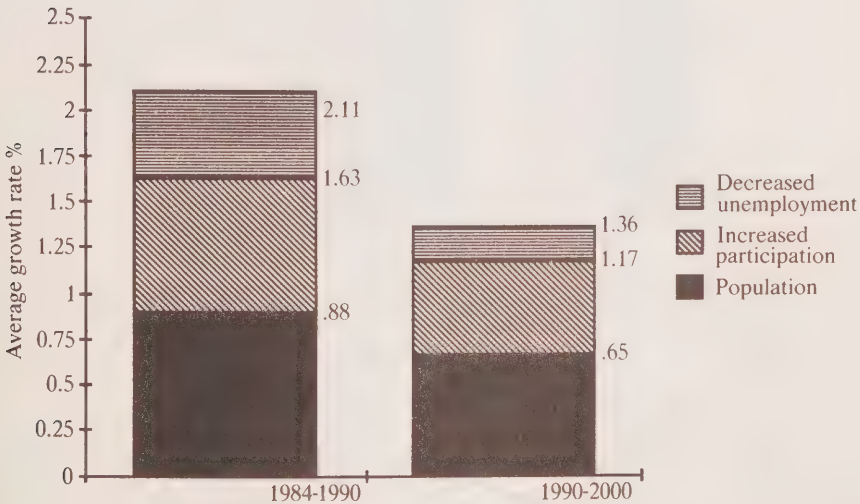
Sources: Chase Econometrics; Data Resources Inc.; Informetrica; and Institute for Policy Analysis, University of Toronto.

FIGURE 7-7 Sources of Growth of Real Gross National Expenditure



Sources: Chase Econometrics; Data Resources Inc.; Informetrica; and Institute for Policy Analysis, University of Toronto.

FIGURE 7-8 Sources of Growth of Employment



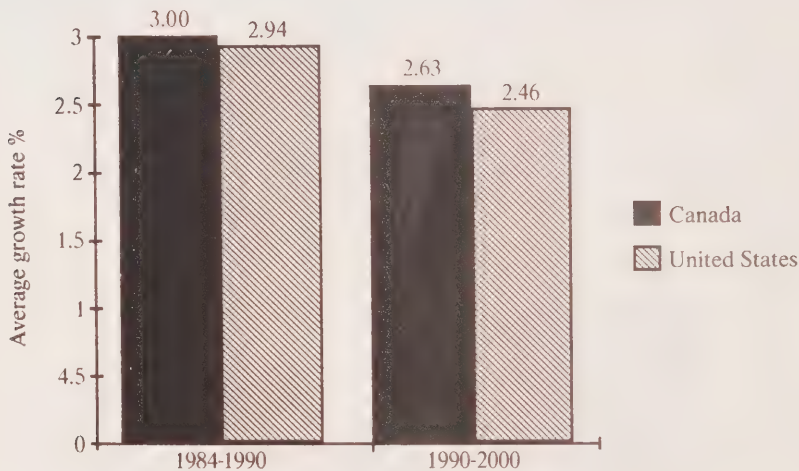
Sources: Chase Econometrics; Data Resources Inc.; Informetrica; and Institute for Policy Analysis, University of Toronto.

The unemployment rate is expected to decrease only very gradually from its current high level. It is projected to average 9.7 per cent in the late 1980s, and 7.5 per cent in the late 1990s. In November 1984, the Minister of Finance projected that the unemployment rate would average 9.25 per cent over the rest of the 1980s.

Inflation is expected to diminish only slightly, until 2000, from its current level of about 5 per cent. This figure is in line with average inflation over the 1956–81 period and well down from the double-digit levels of much of the 1970s and early 1980s. The Minister of Finance has predicted a lower rate of inflation, an average below 4 per cent, for the remainder of the decade.

Canadian prospects are critically dependent on developments in the United States. Figure 7-9 compares the average real growth rate for the Canadian economy projected by the four forecasting groups and the average real growth projected for the United States. During the late 1980s and 1990s, real growth is expected to be only marginally higher in Canada. This projection stands in contrast with the 1 per cent differential in real growth rates in Canada's favour that was characteristic of the 1956–81 period.

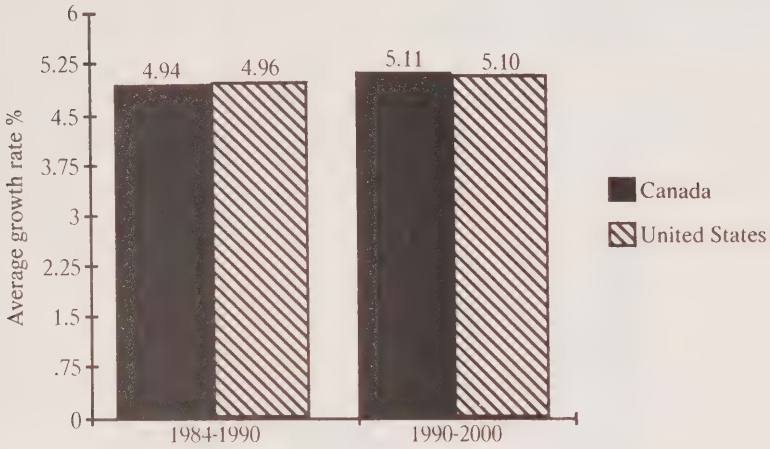
FIGURE 7-9 Projected Real Gross National Product in Canada and the United States



Sources: Chase Econometrics; Data Resources Inc.; Informetrica; and Institute for Policy Analysis, University of Toronto.

As Figure 7-10 indicates, inflation rates in Canada are also expected to be very similar to those in the United States. Inflation is expected to average about 5 per cent in both countries. With a floating Canadian dollar, it is possible, in theory, for inflation to differ widely between Canada and the United States. Experience has not borne out this theory because monetary policy in Canada has been similar to that practised in the United States.

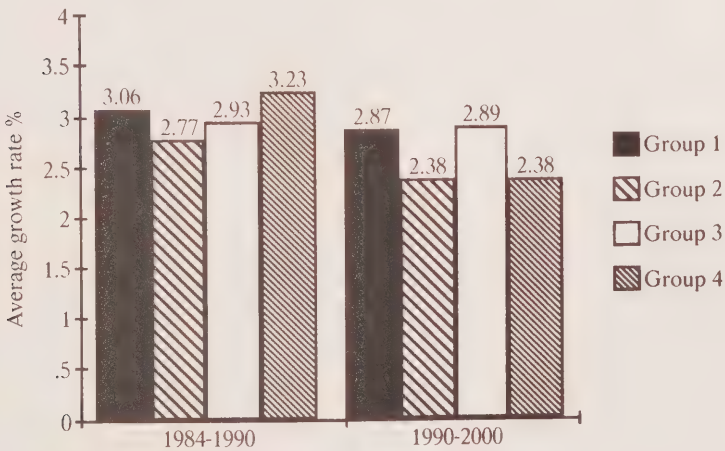
**FIGURE 7-10 Projected Consumer Price Index
in Canada and the United States**



Sources: Chase Econometrics; Data Resources Inc.; Informetrica; and Institute for Policy Analysis, University of Toronto.

The projection considered so far represents an average of the four projections reviewed by this Commission. The extent to which the four forecasting groups differ in their views of the prospects for real growth is indicated in Figure 7-11. The projections for both the late 1980s and the 1990s vary within a range of only about 0.5 percentage points.

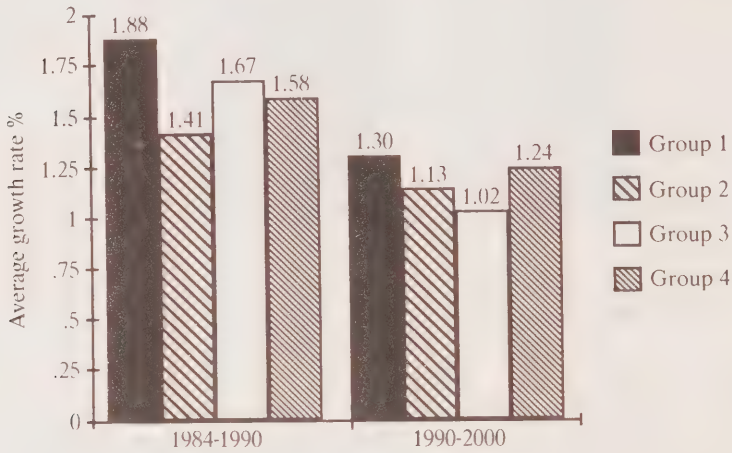
**FIGURE 7-11 Real Gross National Product:
Projections of Four Forecasting Groups**



Sources: Chase Econometrics; Data Resources Inc.; Informetrica; and Institute for Policy Analysis, University of Toronto.

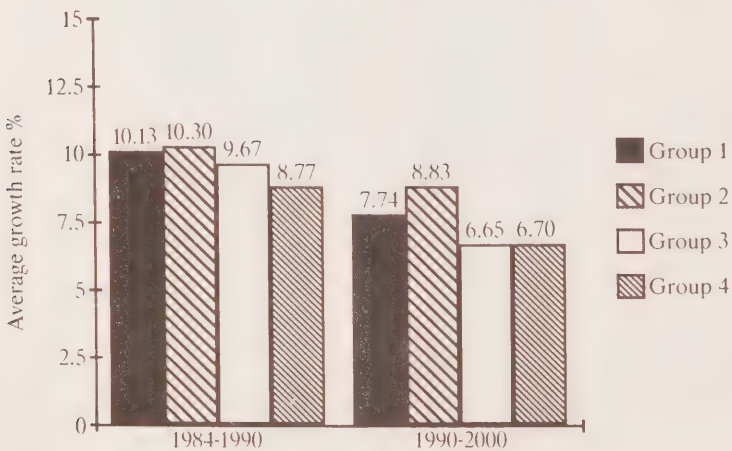
As Figure 7-12 shows, the range of views about the likely growth of Canada's labour force is even narrower. For the late 1980s, the average annual growth rates of the labour force, projected by the forecasting agencies, range from 1.4 per cent to 1.9 per cent; for the 1990s, the range is from 1.0 per cent to 1.3 per cent.

FIGURE 7-12 Labour Force: Projections of Four Forecasting Groups



Sources: Chase Econometrics; Data Resources Inc.; Informetrica; and Institute for Policy Analysis, University of Toronto.

FIGURE 7-13 Unemployment Rate: Projections of Four Forecasting Groups

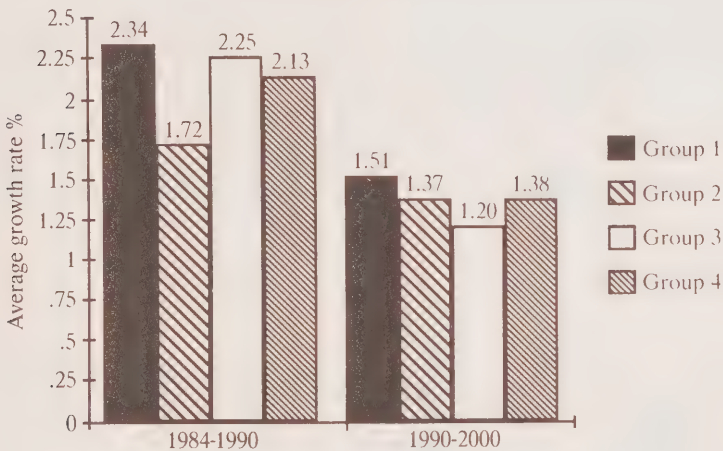


Sources: Chase Econometrics; Data Resources Inc.; Informetrica; and Institute for Policy Analysis, University of Toronto.

Views about the likely path of the unemployment rate differ more significantly, as Figure 7-13 shows. For the late 1980s, the low projection for the average unemployment rate is 8.8 per cent, the high projection is 10.3 per cent, and the mean of the four forecasts is 9.7 per cent. For the 1990s, the low forecast is 6.7 per cent, the high forecast is 8.8 per cent, and the mean of the four forecasts is 7.5 per cent.

Figure 7-14 shows the range of projections for employment growth. The low projection for average employment growth in the late-1980s is 1.7 per cent, the high projection is 2.3 per cent, and the mean forecast is 2.1 per cent. For the 1990s, the low projection is 1.2 per cent, the high projection is 1.5 per cent, and the mean projection is 1.4 per cent.

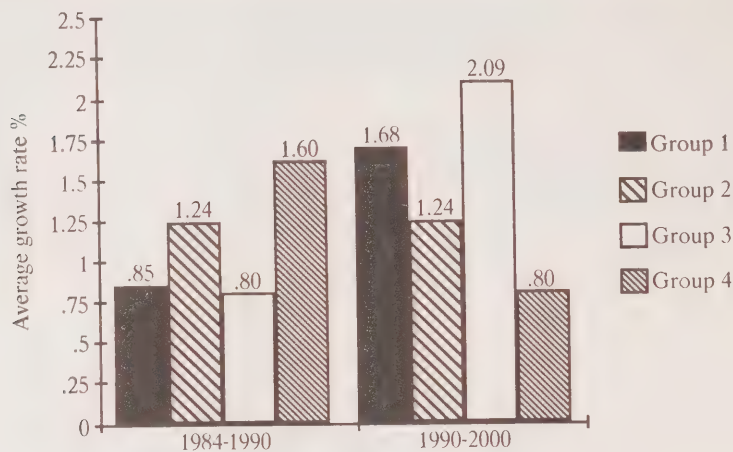
FIGURE 7-14 Employment: Projections of Four Forecasting Groups



Sources: Chase Econometrics; Data Resources Inc.; Informetrica; and Institute for Policy Analysis, University of Toronto.

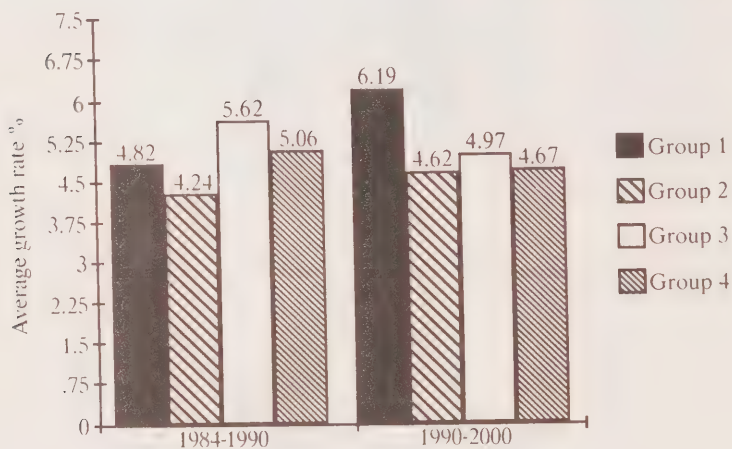
There is less agreement about productivity growth than there is about labour-force and employment growth. (See Figure 7-15.) The divergence in the projections stems, in part, from differences of opinion about the causes of the post-1973 slow-down in productivity, and about the extent to which the slow-down can be expected to continue. The mean projection for average annual productivity growth in the late 1980s is 1.1 per cent, while the low projection is 0.8 per cent, and the high projection is 1.6 per cent. For the 1990s, the mean forecast for average annual productivity growth is 1.5 per cent, the low forecast is 0.8 per cent, and the high forecast is 2.1 per cent.

FIGURE 7-15 Productivity: Projections of Four Forecasting Groups



Sources: Chase Econometrics; Data Resources Inc.; Informetrica; and Institute for Policy Analysis, University of Toronto.

FIGURE 7-16 Consumer Price Index: Projections of Four Forecasting Groups



Sources: Chase Econometrics; Data Resources Inc.; Informetrica; and Institute for Policy Analysis, University of Toronto.

The forecasters express a fairly wide range of views about the prospects for inflation, although none of them expects a return to double-digit inflation. (See Figure 7-16.) Projections of average annual inflation in the late-1980s vary from 4.2 per cent to 5.6 per cent. Inflation projections for the 1990s

range from 4.6 per cent to 6.2 per cent. This is a remarkably compact range for a monetary phenomenon such as inflation which, in the long run, could vary quite widely, depending on the rate of growth of the money supply. It reflects the judgements of the various forecasting groups about the likely profile of monetary policy in Canada and the United States.

The range defined by the projections of the four forecasting groups is indicative of our economy's probable performance if there are no major unanticipated events or changes in behaviour. However, it is not representative of the full range of possible outcomes. There are risks and uncertainties associated with any forecast. In order to take these into account, forecasters often prepare optimistic and pessimistic scenarios to accompany their "best-guess" projections. While Commissioners have not followed this practice here, in order to restrict to manageable proportions the number of forecasts we have considered, it is useful to mention at least a few of the most important risks.

One significant risk is the possibility of another run-up in interest rates. The future of interest rates depends on the stance of monetary policy in the United States and on the resolution of the U.S. deficit problem. Any severe tightening of U.S. monetary policy could have a disastrous impact on the global economy, given the debt overhang of many developing countries and the vulnerability of leading banks in the industrialized world. Nor can other disruptive international developments be ruled out. The memory of the energy shocks of 1973-74 and 1979-80 should serve to reinforce this point.

There are also domestic risks. While long-term projections tend to be driven, primarily, by expectations about supply, the forecasters voiced some concern that demand might not be strong enough to elicit the potential supply. A specific worry was that investment spending might not, in fact, be as strong as projected in the light of present and anticipated excess capacity and of the expected financial position of the corporate sector. There was also concern that consumers might not be willing to reduce their rate of savings, thereby causing consumer spending to be less than forecast.

In spite of recent experience, not all the uncertainties involve unfavourable outcomes. It is not outside the realm of possibility that inflation will continue to slow, leading to a new era of international price stability. Real interest rates could decline world wide, spurring a global surge in domestic consumer and investment spending, and in exports. This eventuality would have the felicitous effect of restoring the world's economy, including Canada's, to relatively full employment much more quickly than is now expected.

This review has focused on the broad outlines of the macro-economic prospects of Canada's economy. The projections prepared for this Commission also contained detail relating to industry. All of the projections anticipate relatively weak growth for natural-resource/based production, exports and relative prices, with the possible exception of energy and agricultural products. This weakness, which is especially pronounced in the areas of mining and forestry, reflects a number of factors, including slower average growth in overall world demand than in the pre-1974 period; increased dependence on higher-cost sources of supply in Canada; and increased international competition, particularly from developing countries that may

still have the benefit of large, relatively untapped, and lower-cost sources of supply. The resources sector is considered in detail in Part IV of this Report, where a number of very fundamental sectoral policy reforms are recommended to ensure that any further relative decline cannot be attributed to mismanagement.

Notes

1. The fertility rate is the number of live births per woman over her child-bearing years.
2. The "replacement value" is slightly higher than 2 live births per woman over her child-bearing years because slightly more than half of live births are males, and because some females die before they reach child-bearing age.
3. John Sargent, *Long-term Economic Prospects for Canada: A Symposium*, vol. 23, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
4. Chase Econometrics, one of the four forecasting groups, projects that the aggregate participation rate will rise from 64.7 per cent in 1984 to 66.9 per cent in 1990, and to 67.6 per cent in 2000. The basis of this projected increase is a forecast that the female participation rate will rise from 53.4 per cent in 1984, to 57.6 per cent in 1990, and to 61.2 per cent in 2000; and that the male participation rate will increase only marginally from 76.5 per cent in 1984, to 76.7 per cent in 1990, and then decrease to 74.4 per cent in 2000.



Economic Growth, Investment, Technology, Management and Entrepreneurship

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Economic Growth, Investment, Technology, Management and Entrepreneurship

This is the first of two chapters devoted to considering means of achieving higher levels of real income over the longer term. In this chapter, Commissioners' primary concerns are the contributions made to economic growth by capital formation, technological progress, management and entrepreneurship. By way of introduction, we address first the concern that technological progress – or a more efficient allocation of the economy's resources across different activities – may produce not economic growth, but unemployment.

The Relation between Jobs, Productivity, Technological Change and Real Growth in the Longer Term

While improvements in productivity provide the foundation for increases in real incomes over time, many submissions to this Commission expressed concern that greater efficiency in production might result in job losses. Some see technological advances, such as the development of robots and other creations of the micro-electronic "revolution", as displacing workers or slowing the creation of new jobs. Furthermore, the increase of economic growth expected from freer trade could demand extensive rationalization of industry, again at the expense of jobs. The fundamental issue, therefore, is whether or not there is a trade-off between growth in employment and growth in output, productivity and incomes.

The view of most economists is that there is little or no trade-off of this type in the longer run of, say, a decade or more. Most economists believe that over the long run, growth of employment and increases in productivity evolve independently to a considerable degree. In other words, if technological change or industrial rationalization produced higher productivity, there would be little net effect on total employment; rather, there would be higher output

and higher real incomes, but little, if any, change in the number of jobs, although the mix of jobs might well change.

Underlying this conviction is the belief that in the long run, factors relating to the supply of goods and services determine levels of employment and real income.¹ “Demand-side” factors, resulting from cyclical developments and policies of demand management, tend to average out or lose significance over time.² The range of variations in the economy over the course of the “business cycle” is normally much smaller than the cumulative impact on economic growth of supply-side changes if these extend over a period of ten or more years.

It is difficult, if not impossible, to prove that the concern about adverse effects of technological change on total employment is groundless. It is, however, possible to assess the strength of logical arguments and historical evidence in favour of the economists’ view, advanced above, of the relation between productivity, real growth and employment.³ Since many people feel deep concern about the possible connection between technological change and unemployment, the following sections explore both the theoretical and the empirical arguments that relate to this issue.

The Theoretical Arguments

In a “closed” (non-trading) economy, productivity growth secures not only an increase in the potential supply of output, but also an increase in real income and, consequently, in potential real purchasing power. The spending of that increased purchasing power will create an increased demand for goods and services that should approximately match the increased supply resulting from the increased productivity. If we consider, rather than a closed economy, a small open economy such as Canada’s, the additional potential output made possible by improved productivity would generally sell on the world market at prices little lower than those current before the increase in productivity. In either case, demand growth will match the output growth made possible by greater productivity, at least over the long run. Nevertheless, there will be adjustment problems to consider.

Sometimes adjustment to the increase in productivity can take place with minimal disruption in employment patterns. This will tend to occur where the “new” production processes make use of workers with skills similar to those associated with old processes, and when the demand for the product is “price elastic” (that is, the volume of demand increases by more, in percentage terms, than the reduction in price). Then, as costs decline with the growth in productivity and prices fall, sales and, therefore, output increase more than proportionately. Given the resulting increase in output, employment in the industry need not fall and may rise. Examples of this possibility include the communications industry over much of its history and, more recently, the computer industry. In these cases, the relative price reductions resulting from labour-saving innovations—sometimes coupled with growth in demand as general levels of real income have risen—have led, as a rule, to sufficiently large growth in sales to ensure a substantial increase in employment.

Nevertheless, adjustment to an increase in productivity often involves both disruption and reduction in employment in particular industries. This can occur when either the skills demanded by the new production processes are different from those required for the old, and/or the demand for the product is relatively “price inelastic” (that is, percentage increase in volume demanded is less than the percentage reduction in price). The latter situation is typical of the demand conditions for many agricultural products. As a result, the major increase in agricultural productivity that began in the eighteenth century and accelerated rapidly after the Second World War led to a dramatic decline absolutely and relatively in employment in farming.⁴ In this sector, productivity increases led to an increase in real income and real spending, but the objects of that expenditure and, hence, the new jobs created were not in agriculture but in other industries, some of them in agriculture-supporting industries such as the manufacture of farm machinery or fertilizer. As consumers spent a smaller fraction of their budgets on food, because of the drop in relative cost, they were able to spend more on consumer durables and services, which resulted in the creation of new jobs.

If one looks only at total employment (or unemployment) statistics for North America and Western Europe in the period after the Second World War, it is, in fact, hard to see much evidence of difficulty in adjusting to the huge decline in agricultural employment. This is not to deny that many people and communities had to make difficult and far-reaching adjustments. In Canada, hundreds of thousands of individuals left farming and generally had to relocate; hundreds of communities declined in size, and some of them became ghost towns; one province, Saskatchewan, experienced extended periods of population decline.⁵ Despite all this, the massive adjustments imposed by the dramatic increases in agricultural productivity did not produce substantial unemployment in the regions concerned, nor did they initiate extended periods of unemployment for most of those dislocated.

The introduction of new technologies can result in a decline in demand for workers experienced in older production processes who find it difficult to re-establish themselves in expanding industries requiring different skills. Adjustment can be extremely difficult for such workers, particularly if the shift in demand takes place rapidly. If this happens, adjustment often requires learning new skills—frequently a time-consuming process—and possibly accepting a lower wage, temporarily or permanently. These problems tend to be especially acute for older workers.

This simplified outline of the varying effects on employment of improved productivity leads to several broad conclusions. First, to the extent that productivity increases result in employment losses in one area, there are powerful economic mechanisms at work to generate a comparable number of jobs elsewhere. Secondly, the effectiveness of these mechanisms depends, to a considerable extent, on the responsiveness of the price and wage system to market forces. Declines in price are needed to encourage the purchase of a larger volume of products where productivity has increased and, if the demand response is low, to permit declines in aggregate spending on those items so that purchasing power may be transferred elsewhere. In the same

circumstances, increases in average real wages (which will tend automatically to accompany productivity growth if prices are flexible) are also needed to permit increased real spending. Increases in relative wages for certain occupational groups are required to draw workers to areas where new employment opportunities are available. Declines must occur in relative and, quite possibly, in absolute wages for occupational groups in declining industries in order to cushion the drop in demand for their services. A reduction in relative wages in geographic areas where the demand for labour has fallen can help to minimize unemployment. As a general rule, the effectiveness of these adjustment mechanisms will decline to the extent that impediments occur to the necessary adjustment of prices and/or wages in response to market forces. Such impediments will reduce the ability of an economy experiencing improved productivity to sustain employment. Thirdly, even though average real incomes will increase with improved productivity, some individuals will face difficult adjustments that may involve a change of jobs, the undertaking of a new occupation, a move to a new community, and/or a temporary or permanent decline in income.

Most economists would subscribe, in general terms, to the preceding description of the processes by which our economic system adjusts to the ongoing technological and other changes that contribute to productivity growth. Canadians looking back over the post-Second World War period would recognize that on the whole, our economy has adjusted extraordinarily well to dramatic changes in its structure. Some, however—particularly those who are or may soon become victims of change—may not find the case either convincing or comforting. These people might well ask whether the massive unemployment of the 1930s and even the high levels being experienced today, not only in Canada but also in Western Europe, are consistent with a “self-equilibrating system”. What explanation—or solution—is there for the significant portion of unemployment that exists today in certain occupations and regions that seems to be the result of major structural changes in our economy? Are today’s technological changes of a different order of magnitude than any experienced in the past? The answers to such questions are not easy, and they involve issues of widespread concern.

There is no significant evidence that the massive unemployment of the 1930s or of the present day resulted from technological change. Most of those examining both periods would agree that the sharp rise in unemployment resulted from the fact that total demand for goods and services in the economy fell considerably short of the economy’s ability to produce them. One or more forces in the system may produce wide swings in real and nominal demand.⁶ Substantial unemployment may occur if monetary or fiscal policy is not adjusted sufficiently to offset a decline in aggregate demand. A similar outcome may result if the general level of wages and prices does not adjust sufficiently to ensure that nominal demand produces sufficient real demand to match the economy’s capacity to supply goods and services. If, for example, nominal demand increases as a result of a change in fiscal or monetary policy, there will be no increase in real demand if prices and wages increase by the same amount. The issues of short-run economic stability and demand-management policy are the subject of Chapter 10 of this Report.

Over the period for which we have reasonable data on the composition of unemployment, there is no evidence that structural unemployment caused by technological change has ever accounted for a major share of total unemployment over a large geographic area and during extended periods of time. Structural unemployment caused by technological change can be significant in smaller regions and for certain groups of workers (especially older workers), but it has not been a major contributor to the long-term pattern of national unemployment in Canada or in other comparably industrial countries.

These arguments may not have convinced the sceptical reader. Will the economic mechanisms described above and, particularly, the price/wage mechanisms that are nowadays widely thought to be subject to many inflexibilities and imperfections work smoothly enough to provide jobs for those displaced by technological change and for new entrants to the labour force? It is, after all, easier to see where Canadians have lost or are likely to lose jobs as a result of technological change than to recognize where the working of the economy has created or will create them.

Commissioners' assumption that these mechanisms do work and will continue to work rests, in part, on the reasoning outlined earlier. It rests, as well, on the historical evidence, to which we now turn, that such mechanisms have operated more or less satisfactorily in recent decades. The weight of evidence is, we believe, compelling.

Historical Evidence

Both in Canada and in a number of other countries, historical evidence strongly suggests that over the longer run, growth in the supply of labour (the labour force) primarily determines employment growth. Underlying productivity trends primarily determine real wage growth which, in turn, broadly determines real growth in per capita income. Growth in employment and growth in productivity are, to a considerable degree, independent of each other, although this statement requires some significant qualifications which we shall review below.

Let us consider first Canada's experience since 1926, the first year for which national accounts data are available as indicated in Table 8-1. Trends in growth of employment during the periods shown match within a few tenths of a percentage point the trends of growth of the labour force. The growth of the labour force stems primarily from such independent factors as population, age structure and social forces. Thus, it is the growth of the labour force that should be considered as the factor causing employment rather than the reverse. Table 8-1 also provides significant evidence that growth of employment and productivity are, to a considerable extent, independent of each other over time. Between 1926 and 1946, for instance, productivity grew moderately, but the labour force and employment experienced low levels of growth. Between 1946 and 1956, productivity increased substantially, but the labour force and employment grew little. Between 1956 and 1973, productivity increased moderately to quickly, while the labour force and employment

TABLE 8-1 Longer-Term Trends in Employment and Productivity, Canada

Time Period	Average Annual % Growth Rates		
	Labour Force	Employment	Productivity
1926-46	1.4	1.4	2.1
1946-56	1.8	1.8	3.5
1956-66	2.5	2.5	2.1
1966-73	3.1	2.8	2.5
1973-81	3.2	2.9	0.1
(1973-82) ^a	2.9	2.2	-0.1

Source: Statistics Canada, *National Income and Expenditure Accounts* (Ottawa: Minister of Supply and Services Canada, various years).

- a. The 1973-82 period is not even roughly cyclically neutral, as 1973 was a very strong year and 1982 a very weak year. Over an interval as short as nine years, this can cause the average growth rate of employment to diverge appreciably from the average growth rate of labour force, thus causing unemployment to change substantially.

also grew substantially. After 1973, productivity remained virtually static, while the labour force and employment grew quickly.

Let us look next at the average record for the highly developed OECD economies over the period from 1960 to 1982.⁷ Table 8-2 presents basic data relating to this record, as reflected in changes in the labour force, employment and productivity. Figure 8-1 further illustrates the relation between changes in the labour force and employment, and between changes in employment and productivity. The data support and reinforce the evidence noted for Canada: there is a very close long-term correlation between growth in the labour force and growth in employment. There is no marked relationship between growth of productivity and growth of employment; but such a relationship as there is probably stems from the tendency of high labour-force growth to result in lower growth of productivity, rather than vice versa.

International evidence, then, does not suggest that rapid growth in productivity causes employment to lag behind growth in the labour force for long periods of time. Demand for workers tends to keep up with growth in the labour force, whatever the rate of productivity growth. In other words, the demand for output of goods and services tends to keep up with the increase in potential supply brought about by an increase in productivity and/or the labour force.

Governments have helped to promote this growth in employment over the short to medium term through the exercise of macro-economic policies. Since the Second World War, growth in nominal aggregate demand has been significantly more stable than it was in earlier years; to a considerable measure, this was the result of a concerted exercise of fiscal and monetary policies. It cannot be claimed, however, that the demand-management

**TABLE 8-2 Average Annual Per Cent Change in the Labour Force,
Civilian Employment and Productivity, OECD, 1960-82**

	Labour Force	Civilian Employment	Productivity ^a
United States	2.1	1.9	1.2
Japan	1.1	1.1	6.2
Germany	0.2	-0.2	3.4
France	0.7	0.6	3.8
United Kingdom	0.4	0.0	2.2
Italy	0.2	0.1	3.9
Canada	2.8	2.6	1.6
Austria	0.1	0.0	3.9
Belgium	0.7	0.3	3.4
Finland	0.6	0.3	3.6
Iceland	2.2	2.2	2.1
Ireland	0.6	0.4	3.6
Netherlands	1.3	0.8	2.7
Sweden	0.8	0.7	2.3
Switzerland	0.5	0.5	2.1
Australia	2.3	2.0	1.8
New Zealand	1.9	1.8	0.8
Total OECD	1.2	1.0	2.8

Source: Organisation for Economic Co-operation and Development, *Historical Statistics 1960-1982* (Paris: OECD, 1984), Tables 1.3, 1.7, 3.7.

a. Real GDP per person employed.

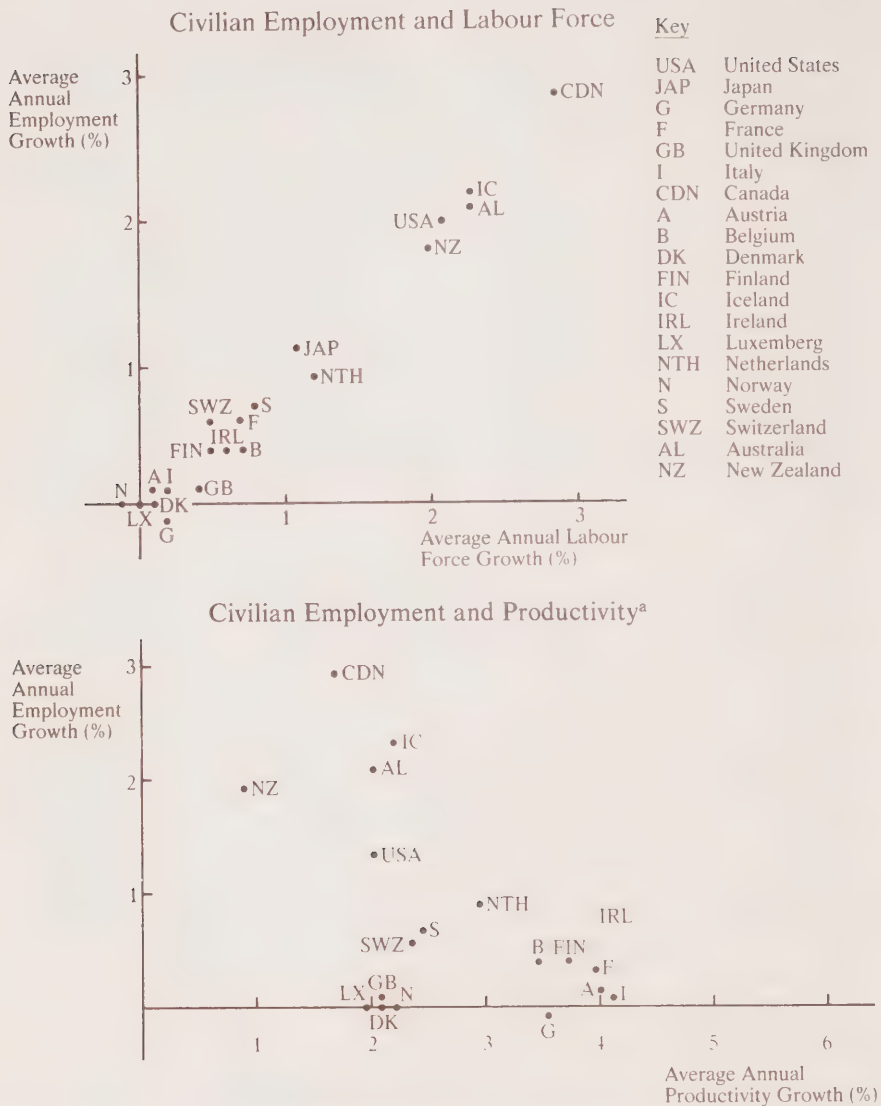
policies of individual countries have been very closely correlated to their particular patterns of productivity and employment growth. It is reasonable, therefore, to assign the primary role in achieving this rough match between employment and labour-force growth over the longer run, in the face of quite different productivity experiences, to the self-correcting adjustment mechanisms described earlier.

Qualifications

Commissioners have argued that labour-force growth tends to be the "independent" or "driving" factor in the creation of employment. We wish, however, to qualify this causal relationship and the related concept that employment growth is substantially independent of productivity:

- Independent growth in employment opportunities can occur—where a region or industry opens up, for example, as in the Alberta oil boom—and can increase the labour force, directly or indirectly, by drawing previous non-participants into the labour force and by encouraging immigration.
- Rapid growth in productivity is probably more difficult to achieve when the labour force and employment are growing quickly, since rapid growth demands high rates of investment just to keep constant the amount of

**FIGURE 8-1 Average Annual Rates of Growth:
Advanced OECD Countries, 1960-1981**



Source: Organisation for Economic Co-operation and Development, *Historical Statistics 1960-1982* (Paris: OECD, 1984).

a. Real GDP per person employed.

capital per employee (as compared with the capital investment required to increase productivity), and since a larger share of the labour force is inexperienced.⁸ The evidence of some tendency toward an inverse relation between productivity and employment growth probably reflects this point.

- While rapid growth in productivity is unlikely, in the long run, to slow employment growth significantly, it will disrupt the economy more and

necessitate more extensive readjustment. Somewhat greater “frictional unemployment”, on average, might result from an increase in job changes brought about by improvement in productivity: employment might grow in line with the labour force, but the margin between them might be higher. This is the most important qualification to the general assertion that faster technological change is not expected to have much effect on employment.

In the short term, qualifications and interdependencies involving changes in the labour force, employment and productivity become still more important. The reasons are as follows:

- Aggregate demand can vary substantially, from the peak to the trough of the business cycle, in relation to change in the economy’s potential productive capacity. The variations can be noticeable over several years and quite sharp in any given year. Thus, employment growth can depart quite sharply from labour-force growth over shorter periods, and substantial swings in unemployment can and do occur.
- In the short run, swings in employment opportunities often induce similar, though weaker, swings in labour-force participation. When employment opportunities decline during periods of recession or slow growth, so-called “discouraged workers” (unemployed persons not actively engaged in job search) withdraw from the labour force, thus reducing the level of recorded unemployment below the “real” figure. Conversely, the revival of economic growth will draw previous non-participants into the labour force, thus tempering, to some extent, the decline in recorded unemployment that would otherwise take place.
- Fluctuations in demand tend to cause both employment and productivity to move in the same direction as falling demand leads to a decline in employment and productivity, and vice versa. This tendency substantially qualifies, in the short run, the longer-term independence of employment and productivity.
- Under some circumstances, the relation between productivity and real wages can “get out of line”. If, for example, real wages become too high in relation to underlying productivity, then a downward adjustment in real wages may help achieve higher employment. This would constitute short-run divergence between real wages/income and productivity, and an inverse relation between real income and employment. Acceptance of a downward adjustment in real wages, but not in the continuing rate of real wage growth, would lead to an increase in employment, but not in its continuing rate of growth.
- Over the short to medium term, the rate of technological change may affect the strength of demand. The famous economist and student of business cycles, Joseph Schumpeter⁹ (1883–1950) suggested that the growth of technological innovations does not follow a perfectly even path; instead, periods of “bunching” of major innovations can occur. In general, application of innovations requires investment in new machinery and equipment; bunching of new innovations ready for implementation would stimulate demand for investment. The investment in new, more productive processes tends to increase productivity. Thus there may be extended

periods, lasting a decade or more, of above-average investment demand, and employment and productivity growth. Periods of weak investment, total demand, and employment and productivity growth might follow if the stimulus caused by one “bunching” of major technological innovations had tended to disappear, and if no equivalent new innovations had yet appeared. This view suggests that all other factors being equal, periods of above-average technological change and productivity growth will tend to produce above-average employment growth, rather than below-average employment growth, as many Canadians fear.

While Commissioners previously emphasized the view held by most economists that there is little or no relation, over the long run, between technological change and levels of employment, some connection may be formed over the medium term, as Schumpeter suggested; this relation may occur between the pace of technological change and the growth both of productivity and of employment. Indeed, such dynamic forces may override the qualification, noted above, that rapid growth of the labour force and employment make the rapid growth of productivity difficult to achieve at the same time. The kind of circumstance described by Schumpeter could offset the qualification that higher rates of technological change tend to cause higher levels of “frictional” unemployment, which result from the process of adjustment in the economy.

Faster Productivity Growth and Employment

As Commissioners have already stressed, there is no evidence from the post-Second World War period that quicker productivity growth has slowed growth of employment over any extended period. Technological change has not increased the level of structural unemployment as might be expected if a substantial percentage of those who lost jobs experienced prolonged difficulty in finding new jobs. Nevertheless, rapid productivity growth could raise the level of unemployment: if the “creative destruction” of existing jobs increases with faster productivity growth, the higher turnover of employment could cause more frictional unemployment.

In order to illustrate the working of this mechanism, let us assume that annual productivity increases involve a loss of jobs equal to 3 per cent of the labour force and the creation of an equal number of new jobs, the productivity of which exceeds that of the old jobs by 33.3 per cent. It follows from these assumptions that productivity will increase by 1 per cent each year. Assume further that each time a worker loses a job, it takes him or her an average of four months to find a new one.¹⁰ These circumstances will produce additional frictional unemployment equal to 1 per cent of the labour force, representing 3 per cent of workers, each one unemployed, on average, for four months of a year.

Would slowing productivity growth reduce unemployment? We could, in principle, discourage implementation of productivity changes that involve job losses. This would seem undesirable, however, since to avoid an increase in unemployment of 1 percentage point would sacrifice a cumulative gain in real

income of 1 per cent per year, which works out to a gain of 28 per cent over 25 years. Furthermore, this frictional unemployment might be reduced by other means, such as facilitating job searches by displaced workers.

Even if we discouraged job-displacing productivity changes, we might not alter employment levels. Measures to discourage companies from taking advantage of potential productivity gains could prove to be counter to the intent of maintaining employment. Employers could, for example, be required to make large severance payments to all laid-off workers; it would be difficult to distinguish between lay-offs resulting from productivity changes and lay-offs for other reasons. Employers might respond to such a measure in various ways. They might become more willing to retrain employees for new jobs and less eager to implement job-displacing productivity changes. To hire a new employee, however, would involve substantially more risks, including an inability to introduce productivity measures which would eliminate the need for that employee. The risks would also include the possibility of incurring larger losses if the demand for the new output fluctuated, or if the employee proved unsuitable for the job. Employers might become much more selective in their hiring, recruiting only employees who were likely to carry out well a particular job or a number of jobs. Such selective recruiting would tend to raise frictional unemployment; it would lengthen the time required to find a job, and it might make some higher-risk candidates virtually unemployable, especially if minimum wages were in effect. Thus such action might not lower unemployment, although it might well slow growth in productivity and real income.

Conclusions

Economic theory and history provide very little evidence that over the longer run, growth and employment are in conflict to any significant degree. This conclusion is essential to Commissioners' subsequent discussion in this Part of our Report and, indeed, throughout our Report. First, given reasonable confidence that improvements in productivity will not increase unemployment, we can consider on their own merits measures for achieving such improvements. However, measures to improve productivity and other sources of economic change can threaten particular jobs, and the job prospects and income of particular individuals. We shall keep this consideration very much in mind.

Secondly, the conclusion that improvements in productivity do not increase unemployment reinforces Commissioners' confidence in considering separately issues involving economic efficiency (including productivity) and maintenance, on a stable basis, of high levels of employment and low levels of inflation. The former issues are the subject of Chapters 8 and 9 of Part III, and of several other Parts of this Report. The latter issue is the subject of Chapter 10 of Part III.

Thirdly, while some observers have suggested that cumulative growth in structural unemployment caused by technological change would compel Canadians as a nation to develop "new types of work" in order to provide people with "something to do" and/or "ways of separating work and income",

Commissioners' conclusions about technology and unemployment indicate that these developments are not likely to be problems for Canada in the foreseeable future.

Notes

1. In referring to the economic effect of factors on the supply side, we Commissioners do not intend to associate our remarks with the views of "supply-side" advocates of the Laffer curve, who contend that a reduction in tax levels will generate sufficient increase in economic output and tax revenue to compensate for any initial loss of tax revenues. Rather, we suggest that factors influencing potential supply such as labour-force growth and productivity trends, and not "demand-side" factors, primarily determine longer-run trends in such economic variables as employment and real income levels.
2. The Depression of the 1930s represents an important exception and the 1981–82 recession may be a partial exception. Apart from fluctuations in demand, such as those caused by the factors cited in the text, real demand tends to grow at the same rate as real supply over the longer run.
3. See Robert C. Allen, "The Impact of Technical Change on Employment, Wages, and the Distribution of Skills: A Historical Perspective", in *Adapting to Change: Labour Market Adjustment in Canada*, vol. 18, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
4. The fact that the demand for many agricultural products is also relatively "income inelastic" (that is, percentage increase in volume demanded is less than percentage increase in real income) helps to explain the relatively slow growth in real demand for agricultural products.
5. Saskatchewan experienced an absolute decline in population virtually continuously from 1936 to 1946 and from 1968 to 1974.
6. Nominal demand is total spending in current dollar terms at actual prices; real demand is total spending in real terms at constant prices.
7. 1960–81 is an approximately cyclically neutral period. The period 1960–82 would generally show wider divergences in rates of growth of labour force and employment because 1982 was a year of severe recession in practically all of the countries considered, whereas 1960 was generally a year of closer-to-average levels of economic activity.
8. Some analysts, however, have suggested that relatively high labour-force growth may increase productivity by making it easier, over time, to reallocate the labour force to sectors/regions of higher potential growth. Under these circumstances, to concentrate the flow of new entrants in areas of higher potential can produce substantial reallocation without requiring or inducing people to change from their current jobs.
9. See, for example, Joseph A. Schumpeter, *Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and Business Cycles* (New York: Oxford University Press, 1961), and *Business Cycles: A Theoretical, Historical and Statistical Analysis of the Capitalist Approach* (New York: McGraw-Hill, 1939).
10. Commissioners are not suggesting that the job losers necessarily find employment in the new, higher-productivity jobs. Associated with the 3 per cent assumed change in the composition of employment, there would probably be substantially larger flows between jobs, but many of the changes would not involve a spell of unemployment. See Part III, Chapter 10 for a fuller consideration of the nature of unemployment.

Capital Formation

While the pace of capital formation did not contribute significantly to the post-1973 slow-down in productivity growth,¹ it is not clear whether accelerated capital formation can help to restore productivity growth. The real capital stock increased on average about 5 per cent per year from 1962 to 1981.² The growth in capital stock reflects the amount of investment or, in the language of the national accounts, gross fixed capital formation.

Table 8-3 provides an international comparison of gross fixed capital formation as a percentage of gross domestic product (GDP). The share of total output devoted to investment in Canada has been higher than the comparable share in the United States or the United Kingdom, much lower than that share in Japan, and similar to the levels for the other major Western European countries. In Japan and the four largest Western European countries, the average investment/GDP ratios fell moderately after 1973. The ratio remained constant in the United States and rose in Canada. A higher ratio of energy investment to GDP after 1973 was the most important factor in the rise in Canada's overall investment ratio, but the ratio of non-energy investment to GDP also increased slightly.

Many people believe that Canada needs more capital per unit of output per employee than most other countries because of our colder climate, which requires higher investment in construction; our lower-density population, which requires higher investment in transportation infrastructure; the larger share of our output in such capital-intensive industries as agriculture, mining (including oil and gas), and hydro-electric/power generation; and our smaller-scale production runs in manufacturing, which may make less efficient use of plant and equipment. Furthermore, our rapid employment growth requires a higher ratio of investment just to provide the same growth in capital per

TABLE 8-3 Capital Investment, Major OECD Countries, 1960–1982

Gross Fixed Capital Formation as % of Gross Domestic Product	Averages				
	1960–67	1968–73	1974–79	1980–82	1980–82
United States	18.0	18.3	18.3	18.1	17.6
Japan	31.3	34.7	32.0	32.3	31.0
Germany	25.2	24.4	20.9	23.4	21.7
France	22.3	23.5	22.7	22.6	21.1
United Kingdom	17.5	18.6	18.7	18.0	16.2
Italy	21.7	20.6	20.0	20.7	19.7
Canada	22.1	21.6	22.9	22.3	22.5
Total: above	20.3	21.6	21.6	21.0	20.9
Total: OECD	20.7	21.9	21.8	21.4	21.0

Source: Organisation for Economic Co-operation and Development, *Historical Statistics 1960–1982* (Paris: OECD, 1984), Table 6.8.

worker as do other countries. Most experts consider growth in capital per worker a major factor in productivity growth.

Nevertheless, given that after 1973, investment was higher in Canada than in any of the other countries except Japan, our investment performance relative to other countries appears adequate, at least before the 1981-82 recession. However, there may at present be cause for concern. Real investment in Canada suffered a sharp decline during the recession and has not yet begun to recover significantly; investment in the United States, on the other hand, has since rebounded sharply.

Another recent source of anxiety has been the deteriorating financial position of corporations during the 1981-82 recession. Table 8-4 presents a few of the financial ratios most frequently used to describe the position of industrial corporations. The ratio of internal funds to capital outlays shows the extent to which corporations had fewer internal funds to draw on to finance investment during 1981 and 1982. The decline in the ratio of current assets and current assets less inventories to current liabilities provides a measure of the erosion of corporate liquidity after 1980. The increase in the debt/equity ratio made corporations more vulnerable to fluctuations in interest rates. There was a pronounced compression of profit margins in 1981 and 1982. The financial position of the corporate sector began to improve in 1983, and improvement continued in 1984. However, this process has necessarily entailed some retrenchment of investment. It is only after corporations have rebuilt their balance sheets that investment can be expected to strengthen. As long as the build-up does not take too long, however, it should not be a source of undue concern.

Some observers expressed misgivings about the effects of the tax system on incentives to invest. In particular, there is worry about the degree to which inflation might have raised and distorted effective corporate tax rates, thus creating a disincentive for investment. Calculations made by the Economic

TABLE 8-4 Selected Financial Ratios of Large Canadian Industrial Corporations, 1980-83

	1980	1981	1982	1983
	(ratio)			
Internal funds/capital outlays	0.76	0.46	0.41	0.84
Current assets/liabilities	1.60	1.52	1.41	1.43
Current assets less inventories/liabilities	0.89	0.83	0.76	0.81
Total debt/equity	1.26	1.38	1.53	1.42
	(per cent)			
Pre-tax profit margin on sales	9.8	8.1	4.5	6.3
Interest burden	27.4	40.2	65.1	49.6

Source: Canada, Finance Canada, *Economic Review*, April 1984 (Ottawa: Minister of Supply and Services Canada, 1984), p. 27.

Council of Canada seem to suggest that this has occurred. According to these estimates, the real effective tax rate in the non-farm/non-financial sector rose from 37.2 per cent in 1963–65 to 44.3 per cent in 1978; in the manufacturing sector, it rose, during the same period, from 42.6 per cent to 47.2 per cent.³ Other data show that the real tax rate rose considerably over the period 1966–78 and actually exceeded the statutory nominal rate in 1975–77.⁴ Other economists, however, have raised questions about the interpretation of the data; if we exclude corporations that are in a loss position, no upward trend appears in the effective tax rate for the non-resource sector as a whole or for the manufacturing sector.

An important factor countering the effect of inflation on the effective tax rate or, at the very least, mitigating the extent of any increase has been the introduction of a number of Canadian corporate tax provisions. These include the 50 per cent rate of capital-consumption allowance and the lower corporate-tax rate for manufacturing and processing; the investment tax credit; and the 3 per cent inventory allowance. More generally, rates of capital-consumption allowance have been higher than required to offset depreciation.

Taking these various incentives into account, a recent study concluded:

*Despite the lack of indexing of the tax system, inflation does not seem to have significantly affected the incentive to invest or the effective tax rate, except for investment in inventories. Similarly . . . the corporate tax structure itself does not much affect the marginal investment decision, with the exception of inventories.*⁵

The stock of capital kept growing strongly through the period 1973–81 and thus did not contribute to the apparent decline in productivity growth after 1973.

Would it be beneficial to encourage even higher rates of investment and capital formation than existed prior to 1981 (which might be possible after full cyclical recovery)? Conventional economic analysis does not suggest that additions to the capital stock would produce dramatic gains in output. One calculation that relates output to the quantity of labour and capital inputs estimates that an increase in investment equal to 3 per cent of GNP (an increase in investment which amounted to more than 20 per cent in 1983) would only raise the total capital stock of the nation by 1 per cent and would raise output by the relatively small amount of 0.3 per cent. More sophisticated calculations, which assume that technical change is embodied in the capital stock, also indicate that it would take a massive increase in investment spending to manage even a relatively moderate increase in output and productivity. We should harbour no illusions that modest increases in investment will result in huge increases in productivity in the short or medium run.

An increase in investment raises only the level of output and not its growth rate over time. Higher growth occurs only in the interim, between the time of investment and the point when the economy reaches the new increased level of output. Moreover, to maintain the new level of output, it is necessary to

devote an increased proportion of output to investment; otherwise, the economy will eventually return to its original growth path.

However, the benefits from increased investment, while not dramatic, might still be worthwhile.⁶ It might be possible to improve economic welfare and raise living standards by increasing investment as long as the pre-tax return on capital exceeds the after-tax rate of return on savings.

One policy prescription to stimulate investment is to reduce the taxation of capital. Another is for the government to increase savings available to finance investment by reducing its own deficit. Some of the discussion of policy alternatives, particularly in the United States, has focused on the desirability of fully funding social security pension plans; this action, of course, would increase the level of savings for this purpose and, in all likelihood, the total level of national savings.

While international comparisons of investment performance and a review of the treatment of investment in the existing Canadian tax system do not suggest a strong case for increasing the long-run level of investment, there are theoretical grounds for believing that such an increase might offer net benefits. Perhaps the main immediate concern, however, is whether investment will recover quickly and sufficiently from its present cyclically weak level. If it does not, governments may need to induce more investment.

Notes

1. See Chapter 7.
2. Canada, Finance Canada, *Economic Review, April 1984* (Ottawa: Minister of Supply and Services Canada, 1984), p. 125.
3. Abraham Tarasofsky and H. Bert Waslander, "Inflation-Adjusted Rates of Return and Effective Tax Rates, by Aggregate and Industry Groups", in *Peering under the Inflationary Veil*, edited by Patrick Grady. Proceedings of an Economic Council of Canada Conference on Inflation-Induced Distortions in Financial Reporting and Taxation, Toronto, October 15–16, 1981, pp. 26–27.
4. *Ibid.*, p. 28.
5. Robin Boadway, Neil Bruce, and Jack Mintz, "Taxation, Inflation, and the Effective Marginal Tax Rate on Capital in Canada", *Canadian Journal of Economics* 17 (February 1984), p. 78.
6. In the United States the leading proponent of this view has been Martin Feldstein of the National Bureau of Economic Research. This same case has been stated for Canada. Robin W. Boadway and W. Steven Clark, "The Government Budget, the Accumulation of Capital, and Long-run Welfare", in *Fiscal and Monetary Policy*, vol. 21, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).

Technological Progress

Technological Improvements in Perspective

The rate of growth of our income per capita—a measure of our wealth as a nation—ultimately depends on the rate of productivity growth of labour and capital. The rate of productivity growth depends, to a considerable extent, on the rate of technical advance or progress. While a number of authors¹ have attempted to quantify the various sources of technical progress, the term continues to describe a residual category of economic developments about which we know relatively little.

Fundamentally, technical progress embraces any innovation that improves the way we do things. Thus, innovations in the political decision-making process or improvements in the organizational design of corporations or non-profit organizations have no less potential to increase wealth than has the discovery of a better carburetor. We must keep in mind that technological change involves a broad process of improvement in products, methods of production, organizational design and management, and, indeed, in the organization of political institutions and the operation of the political process.

Most discussions of technological change concentrate on improvements in products and processes, and on formal research and development. This tendency can be seen in the frequently-voiced concern that Canada is devoting far too few resources to research and development. A few analysts have argued that we have mechanisms in place to develop new products and processes, but that as a society, we have neglected to encourage innovative activity in the field of managerial techniques and organizational design.

One observer contends that political innovation is necessary if technological innovation is to continue.² In his view, a society's ability to adopt new technologies depends on its ability to limit the political power of special-interest groups or to induce these groups to act in ways more conducive to the general good. Political innovation is not only productive in its own right, the argument goes, but it also increases the return on more conventional types of innovative activity.

The Nature, Sources and Rate of Technological Change

A discussion of the evolution of industrial structure would obviously be incomplete without some analysis of changes in the extent, nature and sources of improvement in technology. Unfortunately, the process of technological change does not yield easily to such analysis. One approach, however, is to measure rates of growth in total factor productivity within various industries and to accept the result as the rate of technical advance. While there has been considerable progress in making such measurements, this approach has yet to convey much insight into the causes and nature of technical change. A number of econometric studies have suggested that the rate of technical change in a number of industries in the late 1970s was negative. This does not seem likely; it suggests merely that we still do not define or measure technical change very well. Another approach is to attempt to draw conclusions from

actual experience in particular cases. This involves identifying "major innovations" and, subsequently, drawing inferences from their characteristics of "areas of strength", or appropriate managerial or public policies. This approach, too, entails problems.

One analyst has argued that one-half, perhaps more, of observed increases in total factor productivity are the result of "prosaic, unremarkable improvements".³ Technical change, according to this view, is generally a consequence, not of some great leap forward, but of continual small changes — learning by doing and by using.

During a meeting organized in 1984 by this Commission and the Conference Board of Canada, an executive of the Dominion Foundries and Steel Company (Dofasco) outlined examples of small, yet discernible, improvements resulting in technical change:

We have entered into a study with Nippon Steel which extended over about a six month period where they sent a team of fifteen people to our plant and examined all our operations and they went back home to Japan and analysed that work. We sent about fifteen people over there to work with them. They came back for about another month or so and then they went back.

Anyway what they told us, there is no quick fix to management. It is something that you have to work on continuously, and they were all basic fundamental things they told us that we could improve. And we are a pretty efficient steel company, and they said: "Why are you taking a half inch side trim on that coil?" I don't know. Somebody started doing that and we continued to do it. "Well, you should only take a quarter inch and that would give you a certain percent yield improvement. Why are you moving that coil from here to here? . . . The forklift truck has to pick it up and you get a damaged edge. Do your workers know where you are going?"

(Ben Ciprietti, at Royal Commission and Conference Board of Canada, Meeting of Council of Corporate Planning Executives, Transcript, May 10, 1984, pp. 58–59.)

The changes described involved neither new technology nor formal research and development (R&D), yet they unquestionably enhanced productivity. Formal R&D is important, but we should not emphasize it to the exclusion of other productivity-enhancing policies, including the timely adoption or adaptation of technological advances initiated elsewhere.

The Rate and Pattern of Technical Change

Is the rate of technical change accelerating? In the opinion of many observers, it is. For example, the recent federal Task Force on Micro-Electronics and Employment concluded in a brief to this Commission:

It is worth repeating that this wave of new technologies differs radically from that of the past. Previous technological changes have typically come into public use in isolation and in series. Today the rate and breadth of technological change [are] so great that the interactions between old and new technologies have further-reaching, more complex implications than any time at least since World War II.

Technology is now rapidly changing on a global scale. In fact, we are witnessing nothing less than a transformation of the whole manufacturing system of the world. The geopolitical map of the world is being rewritten in front of our eyes.

(Task Force on Micro-Electronics and Employment, Brief, November 28, 1983, p. 3.)

The Canadian Manufacturers' Association sees the matter in similar terms:

The challenge for Canada is not only to find ways of riding the current wave of technological innovation but, given that the rate of change is accelerating, we must also find ways of remaining on the wave of technological innovation. To do so, our industrial system must be flexible and quickly self-adjusting.

(Canadian Manufacturers' Association, Brief, September 6, 1983, p. 5.)

The Calgary Council for Advanced Technology voiced the same opinion:

Never has time been so critical as it has been with high technology. The product that is viable today is literally obsolete tomorrow.

(Calgary Council for Advanced Technology, Transcript, Calgary, November 9, 1983 [vol. 43], pp. 8833–34.)

During the 1984 meeting sponsored by this Commission and the Conference Board of Canada, participants asked members of the Conference Board's panel of corporate planners whether the rate of technical change is accelerating. Their responses were to the effect that technical change occurs in waves, affecting different industries at different times. Although change is rapid in some sectors, it is not necessarily taking place on a broad front. One participant concluded:

In terms of technical change, I would come back and say that you can look at some areas that are under a phenomenal rate of change now. The micro-electronic area: tremendously rapid rate of change. And the company I work for has one business venture, one in which we measure the life span of the technology in months. But if you look at the oil refining area, I would argue that the rate of change was far faster in 1950 for fundamental process changes . . .

So I think in the oil industry, the rate of process change is not particularly high; micro-electronics is very high; pharmaceuticals and the whole biochemical process [has] a very high rate of change; [for] the chemical and plastic business, in my mind, the rate of change was faster in the sixties than it is now.

(Peter Flynn, at Royal Commission and Conference Board of Canada, Meeting of Council of Corporate Planning Executives, Transcript, May 10, 1984, pp. 98–99.)

Attempts to measure the acceleration of the rate of technical change using various indices of inventive activity produced results that did not accord with the public perception. After surveying the econometric evidence, indices of patenting activity, and other measures of inventive activity, an American economist concluded that these measures provide "evidence that the rate of technological innovation may have slowed down in the 1970s and early 1980s."⁴ He concedes that the available studies are somewhat out of date and notes recent significant increases in resource and development (R&D)

spending in the United States and Canada. Thus, at least one index of technical change is on the rise.

International Diffusion of Technology

Which nations are the major contributors to the world-wide pool of technologies on which Canada and other nations draw heavily? The United States has been and remains the most important source of new technologies, but its relative contribution has declined in recent years. Two studies bear on this record. First, a National Science Foundation study on the sources of significant technological innovations showed that the U.S. share had declined from 80 per cent during the period 1953–58, to 57 per cent for the period 1965–73,⁵ while the Japanese share had risen from zero to 10 per cent. Secondly, a U.S. survey confirmed that while the United States retains world leadership in most fields, the greatest improvements in technological expertise over the period 1968–83 occurred for the most part in Japan and occasionally in West Germany.⁶

Patent data graphically illustrate the decline in the U.S. share and the increase in the Japanese share of world-wide inventive activity. The U.S. share of patents granted to “own nationals” by seven leading industrial countries fell from 49 per cent in 1970 to 34 per cent in 1980, while the Japanese share increased from 22 per cent to 42 per cent. The West German share edged up slightly, while the Canadian share held constant. Changes in the world-wide distribution of R&D spending show that Japanese and German R&D spending have risen more quickly than that in the United States.

There have also been changes in the extent to which new technologies become adopted internationally and in the speed with which this development occurs. New technologies now find their way to more countries and travel more quickly in the process than they did 25 years ago. There is now little or no time lag between reception of a new technology in industrialized countries and its reception in less-developed or newly industrialized countries (NICs).

Researchers are in general agreement that new technologies are transferred abroad earlier in their “life cycle” and more frequently than was usual prior to 1970. One analyst concludes that the product cycle—during which a technology has a period of solely domestic exploitation, with exports serving foreign markets, before it is transferred abroad—has been compressed to the point of non-existence.⁷

Another analyst provides additional evidence on the extent to which new technologies are spreading around the world.⁸ He calculated changes in shares of world market for industries of selected countries ranked by relative expenditures on R&D between 1967 and 1981. The results clearly showed that the NICs such as Hong Kong, Singapore, South Korea, Taiwan and, of course, Japan have increased their relative market shares in the more R&D-intensive product classes, while the reverse is generally true of Western Europe and the United States. The implication is that the NICs are moving toward specialization in export industries involving extensive R&D spending (and presumably new technology) and away from exports involving low R&D expenditure (and

presumably older technology). To do this, they must also be acquiring the latest technologies in one way or another, and much sooner, comparatively speaking, than they ever did before.

Canada appears generally to have received new technologies as quickly as other industrialized countries, although the evidence is mixed. The Economic Council of Canada has interpreted the evidence as indicating that technology diffuses slowly into Canada.⁹ Table 8-5 summarizes the evidence from three large sample surveys, including that of the Economic Council. As the table illustrates, transfers within multi-nationals generally involve newer technologies. One of the benefits of foreign investment is the access it brings to the most recent technological developments.

Diffusion of New Technologies within Canada

Do new technologies spread as rapidly through Canadian industry as they do through the industries of foreign countries? The leading investigators in the field have concluded that new technologies spread more slowly within Canadian manufacturing industries than in other countries.

*The evidence from the various case studies cited is consistent in demonstrating slower adoption of capital-embodied innovations in Canada than in several other developed countries. In cases where the innovation was more capital intensive than existing techniques, thus requiring longer product lengths of run for efficient use, slower adoption reflected the impact of the domestic tariff on plant level production conditions. The experience of the carpet industry suggests that the anti-competitive effects of the tariff might retard the adoption of new techniques even when the innovations are less capital intensive than existing techniques.*¹⁰

Acquisition costs related to identification and evaluation may discourage Canadian firms, especially if they are small, from applying new technologies. Even though a new technology might require little capital to implement, significant acquisition costs might delay its adoption. Acquisition costs, however, tend to decline over time; hence delayed diffusion is more common than limited or zero diffusion, such as one would expect with capital indivisibilities.

Tariffs, quotas and other forms of trade protection seriously impede technological diffusion. Protection sustains small producers who find the new technologies uneconomic, and it reduces the “competitive pressure” to lower costs. Some economists have proposed the remedy of a decrease in trade protection. In their view, trade liberalization would lead to specialization and longer production runs, which would enable producers to spread the costs of new technologies over a larger output. This procedure would make it more feasible for them to adopt new technologies early and more costly to postpone such adoptions.¹¹

The Economic Council of Canada has echoed these same concerns:

Our general finding is that new technology diffuses slowly into Canada from other countries. It also diffuses slowly from firm to firm and from region to

TABLE 8-5 Three Estimates of the Mean Lag Years for Diffusion of New Technology, 1960-1979

Multinational Enterprise Database:						
	Canada			Europe		
	Intra- corporate	Arm's Length	Both	Intra- corporate	Arm's Length	Both
Mean lag	6.93	10.0	7.11	10.27	10.86	10.42
No. cases surveyed	115	7	122	340	116	456

Economic Council of Canada:

	Canada		
	Intra- corporate	Arm's Length	Both
Mean lag	5.8	8.8	6.94
No. cases surveyed	37	19	56

Mansfield and Romeo (1960-1978):

	Overseas Developed Countries^a		Less-Developed Countries
	Intra- corporate	Licensing/ Joint Venture	Intracorporate
Mean lag	5.8	13.1	9.8
No. cases surveyed	27	26	12

Sources: Multinational Enterprises Database, Economic Council Database and E. Mansfield and A. Romeo, "Technology Transfer to Overseas Subsidiaries by U.S.-Based Firms", *Quarterly Journal of Economics* (December 1980): 737-50.

a. Including Canada.

region within the country. By "new technology" we mean new and improved products, processes, and organizational structures. Although there are some exceptions, case studies show that often the process of diffusion of technical change into and throughout Canada occurs more slowly than in other Western developed nations, and not only in the manufacturing sector but in the service sector as well. Substantial benefits could be realized if the diffusion process into and throughout Canada were to be speeded up. We find that scope does exist for policies designed to achieve this.¹²

The Economic Council attributed the problem in the service industries to organization size, lack of technological receptiveness and, in public-sector service organizations such as hospitals and libraries, lack of managerial incentives.

Technology Diffusion and Public Policy

Public policy can affect the rate of adoption of new technologies in a number of ways. Government policies on trade and on foreign investment fundamentally affect the rate of adoption. Liberalization of trade would increase the rate at which Canadian firms adopt new technologies, as would lowering of barriers to direct foreign investment, at least in technology-oriented areas. Public policy on education and the gathering and dissemination of information also affects the diffusion of technology. The universities provide training in science and engineering for a technological society. Many Canadians believe that still further emphasis on science, engineering and business may be necessary. Northern Telecom, for instance, has recommended that:

1. *Canada's education system must emphasize the development of a literate population armed with the tools needed to communicate in a world increasingly dependent on the production and transfer of information.*
 2. *A high priority must be the development of world class post-secondary centers of excellence in mathematics, computer science and the general sciences.*
- (Northern Telecom, Brief, November 2, 1983, p. 29.)

Universities can also assist the diffusion process. In Ontario, the University of Waterloo has been operating the highly successful Canadian Industrial Innovation Centre and Innovation Place, both of which assist in the commercialization of inventions and the incubation of fledgling high-technology firms.

A number of new initiatives have also taken place in the gathering and dissemination of information. In 1981, the National Research Council (NRC) combined its Industrial Research Assistance Program (IRAP) and its Technical Information Service and began an expansion of the combined programs. As of 1984, its field staff of industrial technology advisers totalled 121 persons, of whom 74 worked for provincial or other research institutes under contract to the NRC.¹³ During fiscal 1983–84, the combined programs gave support to 2540 projects and dealt with over 37 000 queries from industry. At the same time, the federal government announced a series of technology centres, and the Ontario government set up six technology centres (with a total budget of over \$100 million over five years) to provide information on currently available technologies to small companies.¹⁴

Representatives of the Canadian Manufacturers' Association testified before the Senate Committee on National Finance that both corporations and industry associations are disseminating the latest developments in manufacturing technology. Indeed, the Senate Committee commented:

The Committee is concerned about the proliferation of technology centres in Canada supported by federal or provincial governments that may not be meeting identified needs. It recommends that the federal government, as a matter of urgency, examine its policies with respect to the support of technology centres, taking into account provincial government initiatives in this area, with a view to ensuring that the centre it supports clearly meets existing or potential needs of industry.¹⁵

Several quarters have suggested expansion of government activity in the area of international information gathering. The Senate Committee recommended that the government review the activities of Canada's science counsellors in six Canadian missions abroad in gathering technical intelligence.¹⁶ In 1984, the Science Council of Canada recommended expansion of, and increased support for, this network of science counsellors.¹⁷ According to another authority, technology brokers, contract-research organizations and long-term technology "think-tanks" have greatly helped other countries acquire technology. These resources are lacking in Canada, he notes, and governments should assist in establishing them.¹⁸

The Generation of New Technologies: R&D Spending

Any analysis of technology turns, sooner or later, to the adequacy of the various individual components of the national R&D effort. Commissioners have attempted to put this in perspective, noting that innovation includes political and social developments. Much technological innovation represents an accumulation of small changes resulting from ongoing improvement to product performance and production methods, based on experience rather than on formal R&D.

Nevertheless, R&D is important, and we must look at the adequacy and efficiency of Canadian R&D spending. The standard measure of the extent of the national R&D effort is the ratio of gross expenditures on research and development (GERD) to gross national product (GNP). Table 8-6 reports this ratio. As the table indicates, this ratio bottomed out at 0.96 per cent in 1976 and has since increased steadily. By 1985, it may reach 1.5 per cent, the revised target set by the federal government in 1981. Table 8-6 reports also the recent experience of the United States. The U.S. GERD/GNP ratio hit its low point in 1977-78 and has increased steadily since then. Thus, the two countries have had the same experience with the GERD/GNP ratio. However, most of the decline in the U.S. GERD/GNP ratio during the 1970s resulted from a decrease in space research, which fell from 0.6 per cent of GNP in 1965, to 0.2 per cent in 1977. As the table indicates, non-defence R&D in the United States declined only marginally during the early 1970s.

At present, the ratio of Canadian non-defence R&D to GNP is approximately 73 per cent of the U.S. ratio of non-defence and space R&D to GNP. How does the Canadian R&D effort compare with that of other countries? Table 8-7 reports the R&D intensities of selected OECD countries. There is considerable year-to-year variation in national R&D intensities. Except for the Japanese figures, which clearly move upward over the period 1971-81, the R&D intensities show no clear trend. Canada's R&D intensity is consistently the lowest of those of the countries listed. Other comparisons show that Canadian industrial R&D intensity is above that of Norway, Denmark and Italy; still other data rank Canada above Australia. The United States is not the only country to devote a significant proportion of its R&D effort to defence. France devotes approximately one-third of its R&D effort to defence and space, and Britain, one-quarter.

TABLE 8-6 Gross Expenditures on Research and Development as a Percentage of Gross National Product, U.S. and Canada, 1965–1983

Year	Canada	Canada non-Defence ^a	U.S. Total	U.S. non-Defence and non-Space
1965	1.20	1.06	2.9	1.3
1966	1.22	1.12	2.9	1.4
1967	1.29	1.19	2.9	1.5
1968	1.25	1.17	2.8	1.5
1969	1.26	1.18	2.7	1.5
1970	1.24	1.17	2.6	1.5
1971	1.22	1.16	2.5	1.5
1972	1.13	1.08	2.4	1.4
1973	1.04	0.99	2.3	1.4
1974	1.02	0.97	2.3	1.5
1975	1.02	0.98	2.3	1.5
1976	0.96	0.92	2.3	1.5
1977	0.98	0.94	2.2	1.5
1978	1.02	0.98	2.2	1.5
1979	1.03	0.99	2.3	1.6
1980	1.09	1.06	2.4	1.7
1981	1.17	1.13	2.5	1.7
1982 ^b	1.34	1.31	2.6	1.8
1983 ^b	1.36	1.32	2.7	1.8

Sources: Statistics Canada, *R&D Expenditures in Canada 1963–1983* (Ottawa: Statistics Canada, Science Statistics Centre, 1983), p. 6, and *Federal Government Expenditures on Activities in the Natural Sciences 1963–64 to 1983–84* (Ottawa: Statistics Canada, Science Statistics Centre, 1983), Table 17; and data from the U.S. National Science Foundation.

a. Calculated as total expenditures less expenditures by the Department of National Defence.

b. Preliminary data.

Those looking for hopeful signs for Canada from the GERD/GNP data would note that the Canadian ratio is rising, although it is not keeping pace with the growth in Japan, for example; that Canada ranks above a number of small, high-income countries in industrial R&D intensity; and that Canada's R&D intensity looks better relative to countries such as the United States, Britain and France when we exclude space and defence R&D from the comparison. The fact remains, however, that Canada is not as R&D intensive as countries

**TABLE 8-7 Gross Expenditures on Research and Development (GERD)
as a Percentage of Gross Domestic Product (GDP)
of Selected OECD Countries**

Country	1971	1973	(%)		1979	1981
			1975	1977		
Canada	1.35	1.12	1.11	1.07	1.12	1.25
France	1.91	1.78	1.80	1.76	1.81	1.97
Germany	2.19	2.09	2.22	2.14	2.40	—
Japan	1.83	1.87	2.94	1.91	2.10	2.40
Netherlands	2.17	2.01	2.12	1.99	1.88	1.90
Sweden	1.48	1.60	1.15	1.87	1.88	—
Switzerland	2.33	2.25	2.40	2.29	2.40	—
U.S.A	2.68	2.50	2.44	2.39	2.37	2.54

Source: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Table 16.6.

such as Sweden, Switzerland and the Netherlands. What, if anything, should we do about this situation? Should we have a national target for R&D expenditures in relation to GNP? In 1978, the federal government set a GERD/GNP target for 1983 of 1.5 per cent. In 1981, it postponed the target year to 1985. As we have said, it appears that we shall reach this latter target.

Recent commentaries, including those of the Economic Council of Canada, the Task Force on Federal Policies and Programs for Technology Development (the Wright Task Force),¹⁹ and the Doody Committee,²⁰—have cautioned that the principal merit of a GERD/GNP target is to increase public awareness of the importance of R&D. It is a device to motivate and focus debate; it is not an end in itself, nor is it of much use as a planning tool. The three studies listed concluded that we should worry less about the quantity of R&D than about its quality and effectiveness. The Wright Task Force concluded about Canada's low GERD/GNP ratio:

This is not necessarily grounds for concern. The effectiveness with which our R&D funds are deployed, in the context of our particular circumstances, is more important than how much we spend. If we doubled R&D spending tomorrow, the economic impact of that increase would be quite marginal. Spending more on R&D makes no sense unless it's spent in a culture that feels compelled to compete. Such competitive environments create a need for innovation, which generates demands for still more research. This self-reinforcing pattern is the hallmark of all vigorously growing economies.²¹

The Senate Committee noted that the "ideal" GERD/GNP ratio for any country depends on its industrial structure, the importance of defence-related

research, its market size, and its ability to gain access to, and use the results of, R&D performed elsewhere:

*Investment in advanced technology must continue to be an important area of government concern, not only in terms of the level of that investment but more important . . . in terms of the quality of that investment.*²²

In the view of these observers (and of Commissioners as well), a willingness to compete and to face competition is essential. Canadians must do whatever is necessary to meet the competition. Some think that to meet this necessity requires much more R&D and more government support. Others think that more or more relevant R&D will be a consequence of a more direct orientation to trade. There is apparent agreement, however, that the willingness to face international competition is essential.

If we are not to set national expenditure targets, at least as a planning device, what are we to do? The alternative is to assess various types of R&D activity on their respective merits as investments. One analyst would focus on the quality and composition of R&D, rather than the amount:

*What that suggests in turn is that the focus of the policy issue should shift from R&D levels to the portfolio of R&D projects an industry tends to generate. This entails turning our attention toward the incentive effects of policies and institutional structures and toward considerations of access, secrecy, and information flow. In practice, some kinds of R&D projects will tend to be "underfunded" and some to be "overfunded"; and a simple R&D subsidy is not the sort of policy such a situation demands.*²³

To attempt to determine the merits of various types of R&D is difficult. It involves, where possible, an assessment of past social rates of return for industrial R&D; it requires a judgement of the discrepancy between the private and the social rates of return: that is, benefits from R&D to the nation as a whole rather than just to particular companies or industries.

Let us begin with research and development performed by the government. This support at present accounts for approximately 29 per cent of all R&D performed in Canada. This proportion is down markedly from the levels for the 1960s and early 1970s, when the government undertook or funded over one-third of all Canadian R&D. A comparison of the most recent Canadian figures with the 1977 figures for OECD countries indicates that government in Canada continues to undertake proportionately much more R&D than the governments of the United States, Germany, Switzerland, Japan and Belgium. Our government, however, performs a smaller proportion of R&D than the governments of Australia, Finland, Italy and France.

The decline in the proportion of Canadian R&D undertaken by government occurred largely because business R&D spending grew faster than that of government. Attempts to contract out government R&D have not altered the government share significantly. The federal Department of Agriculture accounts for some 20 per cent of the government R&D effort, and the National Research Council is responsible for another 20 per cent. Atomic Energy of Canada and the Departments of Environment, Fisheries and

Oceans, National Defence and Energy, Mines and Resources account for roughly 10 per cent each.²⁴

The Professional Institute of the Public Service included the following government-research achievements in its 1983 survey:²⁵

- *Rapeseed (canola)*. R&D expenditures, \$12 million; annual value of crop, \$600 million.
- *Spring wheat*. R&D cost of rust resistant, hard, red spring wheat, \$450 000; value of crop losses avoided, \$200 million.
- *Hybrid corn*. R&D cost, \$32 million; value of increased yield, \$2.6 billion (over the 1959–78 period).
- *The development of styroblock containerized seedlings* for reforestation, resulting in wage savings of millions of dollars.
- *The development of forest fire information systems* that has resulted in the saving of millions of dollars per year in fire suppression and damage costs.
- *Fisheries research* that has resulted in an increase of 80 per cent in the value of British Columbia coho salmon catch and a new snow-crab fishery off New Brunswick with an annual value of \$40 million.
- *Remote sensing technology*.
- *The development of an efficient hydro-cracking process for heavy oils*, to be used at Lloydminster and Cold Lake and in the Athabasca tar sands.
- *A retrofit oil burner kit* that achieves 20 per cent fuel savings.
- *The CRV-7 Rocket system*.
- *Advances in the treatment of pulp and paper effluent*.
- *Telidon*, an advanced video-technology system for facilitating multi-purpose access to diverse computer data-bank resources.

This partial list conveys the essence of the case made by the Professional Institute: government research has yielded significant returns, especially in the resource and environment sectors.

Instances of evidence of a more systematic nature also exist. U.S. studies show high rates of return on agricultural research. Two corresponding Canadian studies also show high rates of return. Researchers at the University of Saskatchewan²⁶ found that research leading to the improvement of canola from the original strains of rapeseed grown in Poland and Argentina has yielded an annual rate of return of 101 per cent.²⁷ The rates of return on successful projects will not, of course, represent the return on the entire research effort. Existing evidence, however, suggests that agricultural research has been a good investment for Canada. The Science Council of Canada²⁸ has suggested that a greater investment in forestry research would also bring relatively high returns.

A large portion of government research over the last 25 years has focused on nuclear power, specifically the CANDU reactor. A recent study put the R&D cost of the CANDU at approximately \$7 billion.²⁹ Another study, which used an alternative costing method, concluded:

*Evidently, to this point in time the CANDU project has been a commercial failure that has cost Canadians between \$16 and \$18 billion (1981) dollars. The benefit, largely to citizens of Ontario, totals about \$2 billion (1981) dollars.*³⁰

Other cost/benefit calculations on Canada's nuclear reactor expenditures are more favourable. While there is dispute over savings resulting from the use of CANDU (as compared with coal or the U.S. light-water/moderated reactors), calculations done for this Commission indicate that there is a range of reasonable assumptions regarding reactor and fuel costs and real discount rates, over which the net advantage of the CANDU may be sufficient to cover its R&D costs.

Whatever the past record, the Wright Task Force believes that as currently managed, government laboratories will not make the contribution their resources would suggest:

Canada's federal laboratories are justly proud of their long tradition of excellence and innovation . . . We believe, however, that these traditions of excellence are being undermined by a growing atmosphere of irrelevance and an excessively bureaucratic management style.³¹

The Task Force suggests the remedy of greater use of peer review and contracting out: government laboratories need better management, not more money.

R&D performed in Canadian universities totalled \$1 billion in 1983, a sum amounting to approximately 20 per cent of all Canadian R&D. This represents a decline of some six percentage points from the level in the early 1970s: a consequence of the growth of industrial R&D. Canada performs more R&D in universities than does the United States, which devoted 8.6 per cent of its 1983 R&D spending to university projects, but Canadian activity is not out of line with that of other OECD countries.

The Wright Task Force has argued that the universities, representing a crucial link in the innovation chain, have a function beyond basic research. Some universities have seized the initiative in this area, most notably the University of Waterloo, which described some of its activities as follows:

The University formed the Waterloo Research Institute to coordinate the research activities and to assist industry in matching their research needs to the expertise resident within the Faculty. Industrial sponsored research at Waterloo now totals more than [that] of any other Canadian University. Contract research this year has experienced a 57% increase over last year.

Waterloo pioneered the concept of "Open Computing" by creating the world-famous WARFOR fast fortran computer in the late 1960's and has moved along this innovative path continuously with the most recent endeavour in this area being the Waterloo-IBM accord to sell MICRONET, an educational computer networking system (Oct. 24, 1983). Waterloo developed software sales last year exceeded those of MIT [Massachusetts Institute of Technology] and Stanford [University] combined.

Research activities have been highlighted this year by the recent award to the VLSI research group of the highest-ever NSERC [National Science and Engineering Research Council] Strategic Grant Award (\$1.6M/3 years).

Waterloo initiated the concept of what has now become the Canadian Industrial Innovation Centre/Waterloo. The aim of the centre is to turn innovative ideas into marketable new products or services.

(University of Waterloo, Brief, November 2, 1983, p. 3 of Introduction.)

The Task Force and participants in this Commission's seminar on emerging technologies judged that the National Science and Engineering Research Council (NSERC) and the Medical Research Council (MRC) are performing well. They recommended that R&D support be changed to cover not only direct costs of particular projects, but also all indirect costs associated with the establishment and maintenance of the relevant facilities and services: in other words, the establishment of "full-cost" funding. While this need not involve an increase in total support of university R&D, it would ultimately lead to specialized research-oriented universities, which many Canadians believe our country requires.

A number of observers have noted the lack of business support for university research in Canada. Some have suggested extension of R&D tax incentives to apply to contributions made by firms in support of university R&D. Given probable substantial national benefits from this type of research, it would seem a candidate for preferential tax treatment.

Canadian R&D expenditures by industry in 1984 amounted to about \$2.7 billion: over 55 per cent of total R&D expenditures in the country. This represents an increase of more than 14 percentage points over the level in the 1960s: business R&D spending has grown faster than government R&D spending. Canada continues to perform less of its R&D in the business sector than do the United States, Switzerland, West Germany, Japan, France and Belgium, but more than do the Netherlands, Norway, Finland and Australia.

The essential features of the Canadian R&D effort by industry, as of 1982, were as follows.

- There were 1296 firms engaged in formal R&D activities, of which 379 were foreign controlled.
- Two hundred and thirty-one firms spent more than \$1 million on R&D.
- Canadian-owned firms accounted for 57 per cent of industrial R&D expenditures; foreign-owned firms made up the balance.
- Seventy-one per cent of the funding for industrial R&D came from the performing firm, and some 13 per cent (excluding tax incentives) came from either the federal or provincial governments.
- The average ratio of R&D to sales was 1.2 per cent, a 50 per cent increase over 1975. Both foreign- and domestically-owned firms increased their R&D/sales ratios. As a group, Canadian-owned firms tend to spend a higher proportion on R&D in relation to sales than do foreign-owned firms operating in this country.
- R&D/sales ratios tended to be highest in the aircraft, communications equipment and engineering-services industries. Some 28 per cent of industrial R&D occurred in the communications-equipment industry, 12 per cent in wells and petroleum products, and 10 per cent in aircraft and parts.³²

Direct government support for industrial R&D currently takes the form of subsidies, contracts and tax concessions. The largest subsidy programs are the Defence Industry Productivity Program (DIPP), of which expenditures totalled \$169.2 million in 1983-84; the Industrial and Regional Development Program (IRDP), with expenditures of \$102.7 million in 1983-84; and the

Industrial Research Assistance Program (IRAP), which spent \$48 million in 1983–84. Government R&D contracts totalled \$268 million in 1983. Tax concessions at present take the form of a 100 per cent write-off of current R&D expenses; a 100 per cent write-off of capital R&D expenditures; 20 per cent tax credit which reduces the cost base for capital consumption allowances; and a flow-through provision for unused deductions and credits, the Scientific Research Tax Credit (SRTC), which the government has substantially tightened.³³

Table 8-8 outlines the support for R&D provided by the tax incentives in effect between 1978 and 1982. The incentives consisted of a 10 per cent (taxable) tax credit and an allowance equal to 50 per cent of the increase in current-period R&D expenditures over a three-year/average base. As indicated, these incentives had a value (tax cost) of approximately \$178 million in 1981 and \$203 million for 1982. Tables 8-9 and 8-10 present additional information concerning the degree of government support for R&D.

When we compare the various types of R&D support both over time and across countries, it is important to note that R&D contracts generally do not involve the same level of support to industry as a subsidy or a tax measure. The Canadian government retains the rights to *all* technology developed under federal contract; the contractor generally has the status of a non-exclusive licensee of any technology it wishes to use. Of course, technology developed with the assistance of a subsidy or a tax measure is the exclusive property of the firm involved.

The comparison of support levels internationally hinges on the weight that we assign to R&D work done under contract for governments. That is, if we view a contract as equivalent, dollar for dollar, with a subsidy or a tax credit,

TABLE 8-8 Tax Incentives for Research and Development and their Cost

(\$ millions)						
Year	Credit Claimed	Effective ^a Credit Rate	After-Tax ^b Value	Allowance	Tax Saving Implied	Total Saving
1978	28	4.8	13.4	50	21.0	34.4
1979	58	7.5	27.8	128	53.8	81.6
1980	80	7.9	38.4	188	79.0	117.4
1981	125	8.5	60.0	282	118.4	178.4
1982	142.3 ^c	8.5	68.2	322	135.2	203.4 ^c

Source: Statistics Canada, *Industrial Research and Development Statistics, 1982*, Cat. No. 88-202 (Ottawa: Minister of Supply and Services Canada, 1984), Table 2.1, and Appendix III, Table 23.

a. Credit claimed ÷ R&D expenditures of claimants.

b. Assuming recipients are taxed at 42 per cent.

c. Estimated by Commission staff.

TABLE 8-9 Federal Payments to Canadian Industry for R&D^a

Fiscal Year	Contracts	Contributions	Fellowships	Total
1977-78	85.9	100.4	1.2	187.6
1978-79	101.0	76.3	1.5	178.8
1979-80	99.1	103.4	1.5	204.0
1980-81	100.2	113.7	1.6	215.5
1981-82	126.8	153.5	1.9	282.2
1982-83	165.1	197.3	2.2	364.6
1983-84	190.2	268.2	3.1	461.5

Source: Statistics Canada, *Federal Government Expenditures on Activities in the Natural Sciences 1963-64 to 1983-84* (Ottawa: Statistics Canada, Science Statistics Centre, 1983), p. 33.

a. Natural Sciences R&D.

TABLE 8-10 R&D Support, Canada, 1978-1982

Year	Tax Saving	Grants and Contracts	Grants and Contracts after Tax ^a	Total Support	Support ÷ R&D Performed in Business Sector
1978	34.4	178.8	123.7	157.6	15.7
1979	81.6	204.0	150.2	231.8	18.2
1980	117.4	215.5	156.4	273.8	17.5
1981	178.4	282.2	202.4	380.8	19.0
1982	203.4 ^b	364.4	322.0	525.4	20.4

Source: Statistics Canada, *Industrial Research and Development Statistics, 1982*, Cat. No. 88-202 (Ottawa: Minister of Supply and Services Canada, 1984).

a. Grants assumed taxed at 42%.

b. Estimated by Commission staff.

then R&D support in the United States, Britain, France, West Germany and Sweden is higher than it is in Canada. If we view an R&D contract as something less than a 100 per cent subsidy, Canadian support comes much closer to the level of those countries.

If we wish to evaluate industrial R&D on its merits, we should ask not only whether the Canadian support is comparable with those of other countries, but also what it should be ideally. The issue here turns on the so-called "externality considerations": the extent to which society's return on R&D exceeds the return earned by the firm that engages in it.

The Economic Council of Canada concluded that R&D spending in Canada was too low, and that more public and private R&D spending was necessary.³⁴ The Council did not indicate whether the additional government spending should be in support of industrial R&D or in other areas. The Senate Committee recommended against further tax incentives and did not suggest any change in subsidies or contracts. The Wright Task Force recommended reviewing all subsidy programs and gradually phasing out those that fail to win the endorsement of clients. It recommended more contracting-out of existing government R&D, but not more overall R&D by government. It concluded that the Canadian R&D tax incentives are “generous”, and that any alterations should be in the direction of broadening the definition of R&D.

A study done for this Commission on industrial strategy³⁵ contends that the social return on R&D is much higher than most people realize, and it supports much more generous funding for R&D in Canada. Not only does R&D result in innovations that bestow benefits on society in excess of the compensation paid the innovator (the “spill-over” effect), but also the workers producing new products acquire skills on the job that enable them to command higher wages. These higher wages are, according to this study, an additional positive spill-over from R&D.

*Estimates of the social return to industrial R&D based on a closed economy assumption are quite high—often in the 30 to 50 percent range. Yet these estimates do not include any of the returns to domestic labour which would be earned if R&D was the means by which a technology gap is maintained. In an open economy context if the basic idea of the technology gap theories is correct, the national social returns to R&D which allow the maintenance of a gap may be far in excess of the conventional estimates.*³⁶

This study encourages “support” for R&D through any one of a variety of tax, subsidy, loan guarantee or procurement policies.³⁷ The level of support would be much higher than at present; the argument is made that Canada’s target of R&D expenditures, equal to 1.5 per cent of GNP, is probably too low:

*If Canada is to have its share of the technologically progressive industries, it will have to devote resources closer to the proportion spent in the major industrial countries. In 1977, these shares within the manufacturing sector were closer to 5 and 6 percent.*³⁸

This conclusion indicates the possibility that greater support of some kind should be forthcoming.

Thus, insofar as federal funding of R&D is concerned, there is consensus that the federal government need not increase its R&D activities, but might, in some situations, usefully shift them to private contractors. University R&D should receive more support from the business sector, and tax incentives to achieve this end are desirable. A greater proportion of federal assistance to universities should take the form of grants in aid of R&D.

There is no such consensus regarding the support of industrial R&D. Had the Scientific Research Tax Credit remained in force as originally established, the Canadian system would be very generous by any standard. As it is,

the system's relative generosity turns on the degree of support attributed to R&D work contracted out by government.

Relative support levels notwithstanding, the study on industrial strategy done for this Commission argues for *much more* generous support. Its arguments require attention, but not necessarily an immediate policy response. The federal government, however, should consider reformulating the Scientific Research Tax Credit. It might refund part of expenditures for R&D undertaken by firms lacking sufficient taxable income to benefit from the tax credit, that is, employ a form of negative income tax. Reliance on the tax system is preferable to a grants program, which tends to be cumbersome and might invalidate basic market indicators of those sectors where R&D expenditure would yield the best returns.

Notes

1. Edward Denison is the most prominent. See *The Sources of Economic Growth in the United States and the Alternatives Before Us* (New York: Committee for Economic Development, 1962).
2. Mancur Olson, *The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities* (New Haven: Yale University Press, 1982).
3. Nathan Rosenberg, *Inside the Black Box: Technology and Economics* (London: Cambridge University Press, 1982), pp. 62–70.
4. Edwin Mansfield, "Technological Change and the International Diffusion of Technology: A Survey of Findings", in *Technological Change in Canadian Industry*, vol. 3, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
5. National Science Foundation, *Science Indicators, 1974* (Washington, D.C.: U.S. Government Printing Office, 1975).
6. Edwin Mansfield, "International Technology Gaps and the Intelligence-Gathering Activities of Firms" (Pittsburgh: University of Pennsylvania, 1984).
7. Raymond Vernon, *Storm over the Multinationals: The Real Issues* (Cambridge, Mass: Harvard University Press, 1977).
8. Bruce R. Scott, "American Competitiveness: Concepts, Performance and Implications", paper presented to the Harvard Business School 75th Anniversary Colloquium on United States Competitiveness in the World Economy, 1984.
9. Economic Council of Canada, *The Bottom Line: Technology, Trade, and Income Growth* (Ottawa: Minister of Supply and Services Canada, 1983).
10. D.J. Daly and S. Globerman, *Tariff and Science Policies: Applications of a Model of Nationalism* (Toronto: University of Toronto Press for Ontario Economic Council, 1976), pp. 97–98.
11. *Ibid.*, p. 95.
12. Economic Council, *The Bottom Line*, p. 61.
13. National Research Council, *NRC Annual Report 1983–1984* (Ottawa: Minister of Supply and Services Canada, 1984), pp. 18–20.
14. Ontario maintains technology centres in Ottawa (micro-electronics), Peterborough (robotics), Cambridge (CAD/CAM), Sudbury (resource machinery), Chatham (farm machinery and food processing), and St. Catharines (automotive parts).
15. Canada, Senate, Standing Committee on National Finance, *Federal Government Support for Technological Advancement: An Overview* (Ottawa: Minister of Supply and Services Canada, 1984), p. 43 (emphasis in original).

16. *Ibid.*, p. 34.
17. Science Council of Canada, *The Canadian Science Counsellors*, Council Statement (Ottawa: Minister of Supply and Services Canada, 1984).
18. Z.P. Zeman, "Towards Technology Acquisition Policy: Six National Approaches", paper prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto, 1984).
19. Canada, Ministry of State for Science and Technology, Task Force on Federal Policies and Programs for Technology Development, *Report* (Ottawa: Minister of Supply and Services Canada, 1984) (Douglas Wright, Chairman).
20. Canada, Senate, Standing Committee on National Finance (C. William Doody, Chairman).
21. Task Force on Federal Policies and Programs for Technology Development, *Report*, p. 3.
22. Standing Committee on National Finance, *Federal Government Support for Technological Advancement*, p. 13.
23. Richard R. Nelson and Richard N. Langlois, "Industrial Innovation Policy: Lessons from American History", *Science* 219 (February 18, 1983), p. 815.
24. Statistics Canada, *Canadian Science Indicators, 1983*, Cat. No. 88-201 (Ottawa: Minister of Supply and Services Canada, 1983), p. 23.
25. Professional Institute of the Public Service of Canada, *Intramural Research and Development: Problems and Remedies*, a discussion paper (Ottawa: The Institute, 1983), pp. 4-6.
26. J.G. Nagy and W.H. Furtan, "The Socio-economic Costs and Returns from Rapeseed Breeding in Canada" (Saskatoon: University of Saskatchewan, Department of Agricultural Economics, 1977).
27. Another widely quoted study is B.E. Prentice and G.L. Brinkman, *The Value of Agricultural Research in Ontario* (Guelph: University of Guelph, Ontario Agricultural College, 1982).
28. Science Council of Canada, *Canada's Threatened Forests* (Ottawa: The Council, 1983).
29. Kristian S. Palda, *Industrial Innovation: Its Place in the Public Policy Agenda* (Vancouver: Fraser Institute, 1984), p. 108.
30. George Lerner, "AECL - An Evaluation of a Crown Corporation as a Strategist in an Entrepreneurial, Global Scale Industry", paper presented to the Research Conference on Government Enterprise, sponsored by the Economic Council of Canada, held at the University of Toronto, November 21-22, 1984, p. 7.
31. Task Force on Federal Policies and Programs for Technology Development, *Report*, p. 25 (emphasis in original).
32. Statistics Canada, *Industrial Research and Development Statistics, 1982 (with 1984 forecasts)*, Cat. No. 88-202 (Ottawa: Minister of Supply and Services Canada, 1984), p. 26.
33. Canadian Tax Foundation, *The National Finances, 1983-84* (Toronto: The Foundation, 1984), p. 243.
34. Economic Council, *The Bottom Line*, p. 83.
35. Richard G. Harris, *Trade, Industrial Policy and International Competition*, vol. 13 (Toronto: University of Toronto Press, 1985).
36. *Ibid.*
37. *Ibid.*
38. *Ibid.*

The Role of Entrepreneurship and Management

The development and growth of Canada's economy depend on our human, capital and natural resources, together with the technology that uses those resources. But our economic well-being depends, also, on two other critically important factors: the bringing together of all these elements to form a productive enterprise, which is the essence of entrepreneurship, and the ongoing process of efficiently organizing and managing each of these facets.

Most people think of entrepreneurs as a few innovative individuals who dare to take risks in pursuit of profit, individuals most often associated with small and medium-sized firms, rather than with large corporations. While individual entrepreneurship continues to be most evident in smaller enterprises, entrepreneurship is also the critical element that has permitted many of today's corporations to develop and maintain large-scale operations. A sophisticated system of management is vital to the efficient operation of such large corporations and, in most instances, is provided by a professional management team concerned with every phase of the business, from production to advertising, marketing and distribution. However, if these larger enterprises are to survive and thrive, their professional managers must also provide an element of entrepreneurship, which may manifest itself in many forms, such as the development of new technologies or new products, the introduction of new marketing methods, or the take-over of another enterprise as a means of increasing the efficiency of operations.

While there are differences in concept, it is often difficult, in practice, to draw a clear distinction between entrepreneurship and management, particularly when the former is exemplified in the ongoing process of change and innovation of existing enterprises as contrasted with the launching of new ventures. Although Commissioners propose to focus initially on management and then look at entrepreneurship, some overlap is unavoidable.

Managerial Techniques, Quality and Organization

The Canadian Federation of Deans of Management and Administrative Studies has outlined the critical role played by management in the development of a nation's economy:

Management itself must be regarded as a national resource alongside technical, natural, financial, labour and other resources, as it is both the catalyst and the "glue" in assembling, organizing and mobilizing these resources.

Increased international competition for markets at home and abroad clearly demands that we produce world-class management talent if we are to achieve economic success and support the attainment of our other social goals. Assuring the availability of such talent should rank high in the nation's priorities.

(Canadian Federation of Deans of Management and Administrative Studies, Brief, November 30, 1983, p. 1.)

With regard to managerial techniques, quality and organization in Canada, several questions arise: How does the overall quality of Canadian management rate by international standards? Does the Canadian managerial

approach differ significantly from that of other countries? How does the quality of Canadian managers rate by international standards? Have our managers had as much formal education or an education of the same quality as their foreign counterparts? Have they had the same experience in critically important management functions as their foreign counterparts?

The United States developed most of the concepts and practices that made possible the efficient management of large-scale corporate organizations. Canadian management methods and practices parallel those of the United States, though ours may be less effective in some important respects. Recently there has been considerable discussion as to whether U.S. management, which once set the standard for the world, has fallen behind. This Commission examined the debate over U.S. managerial ideas and practice as part of its research;¹ it may be useful to note some of the issues that have emerged south of the border.

One of the foremost critics of U.S. economic organization contends that the American economy has been “slowly unravelling” since the late 1960s.² This process is a result of political disarray and of the failure of U.S. corporations to move out of mass production methods that they originally pioneered into other, more competitive forms of production and organization:

*The rigid management-centered organization has become inappropriate to an America now linked to an integrated world economy. That pattern of organization can be duplicated anywhere on the globe, including areas with lower-wage labor and cheaper access to raw materials and emerging markets. Since 1970, therefore, the economies of America and every other industrialized nation have undergone a profound structural change, as the high-volume industries that underpinned these economies in the previous half-century—steel, textiles, automobiles, rubber, shipbuilding, and chemicals—have become less competitive in world markets. The only way industrialized nations can increase their citizens’ standards of living in the future is to concentrate on the high-value niches within these industries and to seize and keep world leadership in new industries based on advanced and emerging technologies. This requires a different form of organization, one far more flexible and adaptable than the structures designed to support high-volume, standardized production.*³

In the view of this observer, managers of the U.S. corporate system have responded in a variety of ways to the new challenges confronting them, but not in ways likely to prove beneficial over the longer term:

*The innovations have not been technological or institutional. Rather, they have been based on accounting, tax avoidance, financial management, mergers, acquisitions, and litigation. They have been innovations on paper. Gradually, over the past fifteen years, America’s professional managers have become paper entrepreneurs.*⁴

Paper entrepreneurship, the critic contends, can be a ruthless game in which those who win do so at the expense of others: investors, taxpayers or consumers. While the game can be lucrative for those who play it well, “it does not create new wealth . . . It merely rearranges industrial assets. And it has hastened our collective decline.”⁵

Paper entrepreneurship is an umbrella covering a number of the failures or imperfections of democratic societies with market economies. It appears to be another term for "rent seeking", a process which involves the use of real resources in an attempt to extract wealth from other members of society. Since the early 1970s, the problem of rent seeking has been central to discussion of the economic difficulties faced by Western industrial democracies.⁶ Paper entrepreneurship is, in part, rent seeking in the corporate sector. An example is the large public- and government-relations staffs that corporations maintain to assist in rent seeking. Members of these staffs may lobby governments to protect existing benefits or secure new ones. In some industries, profitability may depend less on the quality of the technology and production techniques employed than on the manner in which the government manipulates the general and sectoral economic environment. As a member of the Conference Board of Canada's panel of corporate planners observed:

You have to look on an industry by industry basis, and say: What is the cutting edge? But in micro-electronics, if you spend all your time flying to Ottawa, you have missed the point.

In the energy industry if you spend all your time flying to Ottawa you have exactly the point because that is where the money gets made.

(Peter Flynn, at Royal Commission and Conference Board of Canada, Meeting of Council of Corporate Planning Executives, Transcript, May 10, 1984, p. 100.)

Paper entrepreneurship attempts to influence government in order to alter or defend the existing distribution of income. It also seeks ends quite apart from government: these include mergers of companies, which some critics consider socially unproductive, particularly when they lead to creation of large conglomerates. As Commissioners see the situation, however, mergers may benefit one of three groups: society as a whole; the owners of one or both of the firms involved, at the expense of society; the managers of those firms; or a group of "insiders", at the expense of all or some owners and of society as a whole.

Mergers benefit society as a whole when they allow the firms involved to take advantage of economies of scale, which in turn, simply effect a better matching of talents and capabilities with opportunities. Mergers that facilitate increased specialization, larger-scale production, or better use of management or marketing capabilities may increase efficiency and lower costs. We would expect to see and, indeed, have seen, a flurry of acquisitions and divestitures in an economy that is in the process of rationalizing its production arrangements as a consequence of trade liberalization or of a broadly based change in technology.

A merger may benefit the owners of the firms involved at the expense of society if it confers on the new entity additional market power, such as an ability to earn monopoly profits. This result will be unlikely in industries characterized by relatively free trade or by an absence of regulatory or other impediments to the entry of new competitors.

Sometimes a merger will bring about both economies of resource use and increased market power. The consensus of those who have examined this

possibility is that the beneficial effects of the economies will generally offset the harmful effects of the additional market power.

A merger, as well as many other arrangements, will benefit the owners, but not society, if it occurs simply to make use of otherwise unusable tax deductions and credits. This type of activity might be less common if the tax system provided for the transfer or refund of at least some unused deductions and credits. In addition, mergers may be undertaken in order to distort earnings results and to pump up stock prices for the benefit of insiders, promoters or management, at the expense of other investors and perhaps of society as a whole. This latter type of outcome is part of the essence of paper entrepreneurship.

A recent study of the extent, disposition and source of the gains from merger activity in the United States concluded:

Corporate takeovers generate positive gains, that target firm shareholders benefit, and that bidding firm shareholders do not lose. The gains created by corporate takeovers do not appear to come from the creation of market power.⁷

Thus, at least in the United States, mergers may generate gains in wealth that are a consequence of economies of resource use, creation of more efficient management, or realization of tax benefits. The last element would not be wealth increasing from the standpoint of society as a whole.

Because the make-up of the Canadian economy differs from that of the United States, the conclusion about the possible contribution of mergers to the U.S. economy – even if the conclusions were accepted as valid – might not apply to the Canadian economy. In Canada, during the past decade or so, large conglomerate organizations have emerged. Do they represent counter-productive paper entrepreneurship? In its 1978 *Report*, the Royal Commission on Corporate Concentration found that conglomerates had facilitated the transfer of resources from old static industries to newer and more dynamic ones, and that they had also promoted increased Canadian ownership. Nevertheless, the Commission concluded:

On balance ... conglomerate diversification has probably decreased the efficiency of resource allocation in the Canadian economy, although not seriously. Firms that have followed a strategy of conglomerate diversification have, in general, given their shareholders and given their investors below-average returns in the market. Over a long period, therefore, the practice of unrelated diversification is likely to cease through the force of competition.⁸

Continued conglomerate diversification since 1978 belies the conclusion that competition would discourage the practice. Most conglomerates have diversified out of unattractive base industries, a procedure which perhaps represents the best strategy available. Whether it would have been more efficient for the shareholders to diversify on their own behalf is open to debate.

Other criticisms of American, perhaps North American, managerial theory and practice also relate to the same factors that reputedly give rise to paper entrepreneurship. These include preoccupation with short-term earnings

performance at the expense of long-term growth and development and neglect of the so-called “real side” of business operations. Modern-day business operations demand managerial concern for the advancement of production techniques and technologies, new product development, “zero-defect” quality control, “just-in-time” inventory management, and reduction in the hierarchical structure prevalent in most large North American corporations, which tends to be costly and to work against the motivation of employees.

Some observers contend that the limited period that individual managers tend to spend on any given job exacerbates short-term focus of many North American corporations. This creates an incentive for the manager to produce visible results quickly enough so that he or she, rather than a successor, can garner the credit. According to a number of observers, Japanese firms take a longer-term approach. They may have a lower cost of capital, with perhaps a longer period in which to pay back their investment. The lifetime employment provided by many Japanese firms and the absence of stock-market pressures and take-over threats may also permit Japanese managers to take a longer view.

A recent U.S. study⁹ found that more successful American companies also take the long view. Similarly, a study of Canadian companies with a reputation for excellence reports that these, too, operate from a similar perspective:

Continuity in the CEO [chief executive officer] and management teams of these companies, together with their symbiotic relationships with their boards, help give them the confidence and experience to sacrifice short-term advantage for long-term benefits. While the pressure from financial analysts, the stock market, and shareholders for increases in quarterly earnings is a matter of considerable importance and concern, the excellent companies seem to be able to strike the appropriate balance . . .

In achieving this careful balance between the company's short- and long-term interests, they seem to have avoided the malaise that media and academic commentators in North America cite as the cause of the decline of North American industry: an overemphasis on today's profitability by managers anxious to show quick impact before they move on to another job, and commensurate failure to invest in the future through commitments to developing new products, better technology and modern facilities.¹⁰

Two studies¹¹ note that companies with a reputation for good management share a number of common characteristics. These include: a clear definition of the business they are in – and not in; an explicit commitment to leadership, which they seek to achieve through the provision of good value to their customers, and through the identification and exploitation of their competitive edge; and adoption of organizational structures and operational approaches that motivate employees to contribute to the achievement of company goals by instilling a sense of participation. According to a study undertaken for this Commission,¹² certain Canadian steel firms have become world leaders in productivity and productivity growth by confining their interests to a single industry and pursuing a business strategy strongly influenced by technological considerations.

A 1984 survey of 28 countries ranked Canada seventh in overall competitiveness.¹³ Canada ranked eleventh in 1983 and sixth in 1982. In 1984, Canada ranked first in natural endowments, third in financial dynamism, fifth in human resources, and sixth in market dynamics. In other categories, however, it fared considerably less well. We ranked eleventh in economic dynamism, fourteenth in both industrial efficacy and socio-political consensus and stability, fifteenth in outward and innovative forward orientation, and sixteenth in terms of state interference in the economy. The countries that ranked ahead of Canada in overall competitiveness were the United States, which held the first position, Switzerland, Japan, Germany, Denmark and Sweden.

At the time of writing, detailed comparisons of production performance in 1984 were not yet available. In 1983, Canada fared poorly in product quality, design and styling, product safety, on-time delivery and after-sales service. Canadian performance was also poor in the categories of innovation in production techniques and product lines, readiness to exploit inventions, and industrial flexibility. Over the period 1977–82, Canadian employees ranked last in productivity growth; moreover, they compared unfavourably in their willingness to work efficiently and to accept labour-saving devices. Canadian management ranked poorly in managerial drive and entrepreneurship.

A number of other observers have commented on the lack of Canadian managerial entrepreneurship. One brief to this Commission noted:

I have found the average Canadian to be as entrepreneurial as any other national—within the limits of his resources. Canadians in general are not to blame. Rather the entrepreneurial spirit of a few hundred people in the management of our big companies must be questioned.

In some cases the low quotient of entrepreneurship is because the company is simply a “branch plant” and lacks the skills and, more importantly, the mandate for diversification and further processing. In other cases the cause is not so obvious. A comfortable niche conferred on the company by ownership of a rich mine or of a rich forest licence or being shielded from the pressures of competition may be contributing factors.

(H.N. Halvorson Consultants Ltd., Brief, August 19, 1983, p. 3.)

Others have questioned the entrepreneurial capacities of many of Canada's smaller firms:

New product development in [threshold] firms is essentially an exercise in intra-corporate entrepreneurship, dependent more on marketing expertise than its technological capability.

The ability to discover, design and develop products in the face of changing technology and markets is the essence of entrepreneurship. And it is precisely in doing so that Canada's firms have apparently failed.¹⁴

There is no shortage of opinion to the effect that Canadian managers and managements are very good. A member of the Conference Board of Canada's panel of corporate planners said to this Commission:

I have worked with managements all over the world and I do not for a moment accept that Canadian management is not as good as anything I know of in the world, and I include in this the Japanese and German and all of the other rightfully praised managements.

(Arthur Earle, at Royal Commission and Conference Board of Canada, Meeting of Council of Corporate Planning Executives, Transcript, May 10, 1984, pp. 87–88.)

But a presentation to this Commission's symposium on small business gave a less optimistic opinion:

We are second to none in terms of technology, but we are second to a lot of people in management and marketing. Having managed a multinational company and having been exposed to the U.S. management, I am perhaps not as critical of our Canadian management. I sent five vice-presidents down to the parent company [during the] years that I ran Digital, so it speaks for something. I will admit that we lack the discipline that multinational companies will force upon themselves, particularly discipline relative to marketing.

(Denzil Doyle, at Royal Commission, Small Business Seminar, Transcript, October 15, 1984, p. 130.)

As a number of submissions to this Commission have suggested, the apparent lack of emphasis on managerial entrepreneurship may be a product of the relatively protected environment in which many Canadian firms have operated. As protection decreases, the inducement to adapt, to innovate and generally to perform the entrepreneurial function will increase, and experience will sharpen our entrepreneurial skills:

Management education had a role to play in [upgrading] the quality of management, but much less than one might suppose in terms of making it adaptable to change. Adaptation to change, I am quite convinced, derives from industrial experience rather than from a teachable scientific body of thought.

(Arthur Earle, at Royal Commission and Conference Board of Canada, Meeting of Council of Corporate Planning Executives, Transcript, May 10, 1984, pp. 62–63.)

In this view, then, the development of the appropriate skills will be a consequence of a greater exposure to competition. Governments can encourage this development by shunning protective policies and measures that perpetuate managements that are unable to meet the competitive challenge.

Another policy issue suggests reorientation of assistance programs for small business:

Entrepreneurship and marketing are the major weaknesses, not R&D support. Perhaps our greatest failing in attempting to manage the growth of Canada's technology-producing sector is in over-estimating the importance of technology and under-estimating the importance of entrepreneurship and marketing.¹⁵

As we saw above, the 1983 survey ranked Canada sixteenth out of the 22 OECD countries in product design and styling. Governments could well pay closer attention to the way in which the arts and cultural community contribute to Canadian economic performance. Canadian sculptor William McElcheran told this Commission:

What possible connection could there be between art and the economy? To answer this question properly, it is necessary to see the word "art" in a much larger sense than most people are used to.

If "art" means that precious activity indulged in by very special people for a limited audience of well to do culture seekers, the connection with the main stream of society is extremely tenuous. If, however, the word "art" means the use of human intelligence, imagination and creativity in the making of things generally, I believe that a case can be made for the importance of art in the economic life of the nation.

It is in seeing the relationship between people who make sculpture and painting, etc. and people who make more ordinary, useful things, that the importance of art can be appreciated in the economic sense. We need to see a return to quality and individuality in the environment we create for ourselves and this cannot happen unless pride of workmanship is reborn. When workmen are proud of their work, they are artists of sorts.

When price and quantity are the only criteria, it is natural that the cheapest, mass-produced products will have the advantage. In producing low-priced products of very advanced technology, Canada will always be at a disadvantage because of extremely high research and development costs, a small domestic market and a high wage scale relative to Asian countries. When low-priced Japanese goods are also of very high quality it becomes very difficult to compete, even for the U.S. The international race to produce super computers and robotized production systems reads like a life or death winner-take-all struggle which powerful western nations could lose.

There are a tremendous number of things which do not necessarily have to be produced in huge factories but which can generate a great deal of employment (and enjoyment). I know that this sounds like a return to the past, but I believe that it is actually a prediction of the future.

(William McElcheran, Brief, June 18, 1983, pp. 1-2.)

There is, then, another aspect to culture, namely good taste, good design and creative innovation, that should enable smaller industrial economies to compete effectively in the world market. As a country with an even better forest endowment than Sweden, why are we importing Swedish furniture? The answer, of course, is design, which has enabled the Swedes, and the Danes, to sell higher-quality products on world markets. Another example is Italian shoes, particularly for women. Shoemakers in Italy earn less than in North America, but shoemakers in the Far East earn less than those in Italy. It is creative design that has kept Italy a leader in the shoe market.

This Commission suggests that Canadians as consumers should demand high quality and creative innovation in goods produced in this country. They can thus help to create a more competitive Canadian manufacturing sector. In this endeavour, higher quality implies an organic relationship between business and engineering, on the one hand, and design and craftsmanship, on the other. This relationship is hard to establish. In countries that have achieved such success, it has resulted from artists, business persons and engineers working together. In some situations, this co-operation appears to have happened "naturally"; in other instances, public policies supported it.

To promote this process, this Commission endorses the following recommendations of the *Report* of the Federal Cultural Policy Review Committee:

33. *The proposed Canadian Heritage Council should promote liaison among various federal departments and agencies involved in heritage, among all levels of government and between government and the private sector . . .*
37. *The government should amend the National Design Council Act of 1960 to designate a Canadian Council for Design and the Applied Arts and fund the Council to a level that will enable it to fulfill its mandate. The Council should report to the Minister of Communications.¹⁶*

In addition, this Commission recommends particular attention to pages 161–66 of the *Committee Report*.

High-quality products, technologies, plants, homes, cities and locales require the presence of creative artists of all kinds. To increase the long-run supply of artists in all these areas of our national life, as well as their artistic and cultural expression, governments must support the artists and the arts. The long-term return to investment in artists and the arts is real and substantial. In the absence of strong public support of this sector, Canada will not reap these benefits. Governments at all levels should increase their contribution to their respective arts councils.

Business education is also worthy of examination. One analyst has characterized Canadian management as less well educated and less open than that in the United States:

There have been clear tendencies for managers in the United States to be drawn increasingly from those in the labour force who have had university training, especially those with training related to business, science and law. There is also a clear shift towards younger managers. Some of these tendencies are also appearing in Canada, but the shifts are occurring more slowly and have not gone as far. For example, the proportion of managers in Canada with some university in 1971 was only approaching the levels reached in the United States in the 1940's. To some extent, this reflects the continued smaller proportion . . . taking commerce and business at both the undergraduate and graduate levels. In addition, however, those who move into senior management levels in Canada move into positions of middle and senior management later in their working lives than in the United States. The proportion of the Canadian elite that come from the upper class was even higher in the early 1970's than two decades earlier, and this was more pronounced for younger than older managers. The low proportion of Canadian managers with relevant university training thus reflects company selection and promotion patterns and not just the composition and availability of persons with relevant education and experience.¹⁷

Perhaps the wider social and educational background of more recent graduates will enable them to contribute more innovative qualities to Canadian management. However, another study¹⁸ emphasizes the advantages of lengthy internal experience and longevity of tenure. Commissioners believe that public policy should foster the creation of a competitive environment that

encourages experimentation with alternative approaches and efforts to identify and adopt those management practices that are superior.

In its submission to this Commission, the Canadian Federation of Deans of Management and Administrative Studies acknowledged that some observers have criticized business-school curricula for a lack of attention to production management, over-reliance on quantitative techniques, and inadequate emphasis on strategic entrepreneurship. It responded as follows:

Individual North American business schools vary substantially so [that] such observations might apply to different schools to different degrees and at different times. Some criticism, such as inadequate attention to the concerns of production and the "plant floor", probably applies to most. Better schools of management, as better businesses, have moved and are moving to respond to these concerns as resources permit.

Certainly, traditional ideas about "best management practice" are under substantial attack on many fronts. All of what we teach about management, and the pedagogy we use in so doing, requires continuing, critical examination. Nonetheless, it is important to business school curricula and in North American management practice. Inevitably, still further change will be necessary.

(Canadian Federation of Deans of Management and Administrative Studies, Brief, November 30, 1983, pp. 3-4.)

Whatever the orientation of curricula, severe underfunding of business education has seriously restricted both the numbers who receive a management education and the quality of their training. In a letter to this Commission, W.H. Richardson, President of the Society of Management Accountants of Canada, cited the following indicators:

In student-teacher ratios, professional ranking, research funding and doctoral programs, business faculties continue to place far behind the general university average.

A student/teacher ratio two to three times higher than in other faculties. In accounting programs alone, the 1965/66 ratio was 26:1 and the 1978/79 ratio was 36:1. Overall ratios in 1981 were 13:1 university wide and 30:1 in the business faculties. Given the current pressure on business enrolments, that ratio has probably increased substantially today.

The highest ratio of part-time to full-time faculty, almost 1:1 today. 1981 business school enrolments accounted for about 12% of the total university enrolments, but with less than 5% of full-time faculty. This disproportionate use of part-time faculty suggests that the business student is receiving his/her education from less qualified people than the norm.

Even with 12% of university enrolment, it is estimated that business faculties receive only about 3%-4% of the operating budget of the university system, though this is an average that would fluctuate considerably between schools . . .

The Canadian Federation of Deans of Management and Administrative Studies reports that these kind[s] of problems are not restricted to the accounting streams of business faculties.

The unfortunate fact is that many qualified students are not getting the opportunity they deserve to enter business schools, and those that do are receiving a less than adequate education.

Essential research into such areas as measurement of value, productivity, information management, and the not-for-profit sector is not being done. Even if it were, qualified instructors are not available to teach the new techniques and skills arising out of the research.

I believe that we are past the crisis point in developing tomorrow's accountants and managers. For our own economic survival, we must begin now to put matters right.

(Society of Management Accountants of Canada, Brief, November 16, 1983, pp. 2, 4.)

This Commission is of the opinion that Canada must find additional resources for business education. These resources should come from business, from within the university system, and from government.

The international comparison mentioned earlier of Canadian corporate management and its performance leaves no room for complacency; on the contrary, it should be a matter of considerable concern. While government can help to improve the quality of Canadian management—by providing support for business schools, and guidance and training for those involved in smaller enterprises—business must tackle most of the problem itself. It may be, as some have suggested, that the rather unsatisfactory ranking of Canadian management is a result of the sheltered environment in which large segments of the economy have operated in the past. In the far more competitive environment into which we are moving, whether we like it or not, improved management may become essential to the competitiveness of our industries.

Entrepreneurship

As Commissioners emphasized earlier, and as a number of individuals and groups recognized in their submissions, entrepreneurship is a critical element of national economic growth and development. It is difficult to measure the contribution of entrepreneurship to our economic well-being, in contrast to the other elements that contribute to this process, such as human and physical capital and technological advances.

It is sometimes difficult to distinguish between the entrepreneurial and the management functions. A study undertaken for this Commission defined entrepreneurship as part of the process of that innovation:

Entrepreneurship involves the perception of an opportunity to innovate, and the creativity entailed in responding to that opportunity. Some individuals, understanding the potential to alter previous production methods, may implement new techniques or organizational arrangements based upon that understanding, while others may confront the same situation but not share the same insight or creativity. Second, entrepreneurship entails decisions based upon an analysis of uncertainty and risk. An error may occur; an attempt to innovate may fail; there is no guarantee that a new production method will succeed . . . The desire to acquire profit forms a powerful incentive to innovate.¹⁹

Another study undertaken for this Commission maintains that entrepreneurship is central to economic progress. This survey describes an entrepreneur as

an “individual who bets on a new idea and implements it.”²⁰ It concludes that an entrepreneur initiates activities that involve considerable uncertainty, and that could have a profound effect on social relationships by upsetting the existing order and eroding the wealth and privilege of certain groups. In that sense, entrepreneurship is part of the process of “creative destruction”.

There are various views on the circumstances that promote or inhibit entrepreneurship. One view is that entrepreneurship may emerge as a consequence of a perception by individuals, firms or nations that they have fallen behind. Another view emphasizes immigration, particularly by minority groups, as a contributing factor:

*Immigration entails self-selection in that immigrants generally are aggressive and optimistic risk-takers. Furthermore, they may find that avenues to success in their new country are blocked: they are not part of the established culture and their professional qualifications may not be honoured. Their only available route for advancement may be to go into business. Exposure to different production methods in their homeland may spur certain immigrants to take risks and pursue an entrepreneurial career.*²¹

Another view emphasizes a fluid social and political structure and an appropriate reward structure as essential if individuals are to accept the risks of initiating new activity.

The coming together of like-minded individuals may also facilitate entrepreneurship. Former employees of older firms often form new ones. Relations developed between entrepreneurs and financiers may lead to financing of new ventures. Thus it may not be possible to ensure that each region has its *pro rata* share of entrepreneurial activity.

It also seems evident that government policy can encourage or discourage entrepreneurship. Government adjustment assistance, for example, can reduce political opposition to economic change, thus facilitating entrepreneurship. Government policies may also suppress change, either directly or indirectly, by reducing the rewards of entrepreneurship.

Before considering specific measures that governments might take to foster entrepreneurship, it is necessary to gain a clearer understanding of the concept itself. Many Canadians think of it in the context of smaller businesses, particularly new ventures, initiated by one or a few innovative individuals. But many large corporations exhibit entrepreneurship, and, indeed, in many cases, it has been essential to their continuing success. Such entrepreneurship has usually been the product of a team of professional managers, rather than of a few individuals. We can perhaps most readily recognize this process in the larger Japanese enterprises that operate so successfully on the world stage.

One critic claims that U.S. corporations have not moved far enough in this direction:

It is becoming clear that America's economic future depends less on lonely geniuses and backyard inventors than on versatile organizations. Our abundance of Nobel laureates attests to American cleverness . . . Our problem is that we are

*not consolidating this technological leadership into enduring commercial leadership because our industrial organization is not adaptable enough.*²²

In the view of this critic and of a number of other observers, adjustment to this new competitive environment will require increased worker participation, political institutions that can link social and economic development, assistance in adjustment, and increased education, training and retraining.

While ongoing entrepreneurship by large corporations is important to the continued well-being of our economy, entrepreneurial activity among existing or new small businesses has been commanding widespread attention recently in both the United States and Canada. A disproportionate amount of employment growth appears to be occurring in small businesses. Indeed, in most industries, including manufacturing, small enterprises account for most, if not all, employment growth. This development applies not only to Canada and the United States, but also to Western Europe.

The most recent data for Canada appear in Table 8-11. Small firms provided 17 per cent of jobs in 1978, but accounted for 66 per cent of employment growth in all sectors between 1978 and 1982. They accounted for the bulk of employment growth in every sector except community services and public administration. In all but two manufacturing categories—electrical products, and food and beverages—most employment growth occurred in small enterprises. (Small enterprises are defined as employing fewer than 20 persons, medium enterprises as employing between 20 and 100 persons, and large enterprises, over 100 persons. The change in employment was measured over the period 1978 to 1982, using employer payroll-deduction accounts from the income-tax files.)

Table 8-12 shows U.S. employment growth by size of enterprise and industry for the period 1980–82. The smallest enterprises (those employing fewer than 20 employees) accounted for most employment growth in most sectors. Employment declined fractionally among medium-sized firms and significantly among large enterprises, but increased substantially in small firms.

What are we to make of these developments? One school of thought considers that these results indicate an increase in entrepreneurship in small enterprises, which in turn has come about because more people want to operate, or work for, a small firm. One presentation to this Commission's Symposium on Small Business gave a number of reasons for this preference:

- Many young people do not wish to work in a bureaucracy, either private or public.
- The economic dislocations of the late 1970s and early 1980s made a larger number of skilled persons available to start new businesses.
- Technology has created many new market niches that did not previously exist.
- Higher general levels of education have enabled individuals to acquire entrepreneurial skills at an earlier age.
- Market fragmentation has reduced the benefits of mass marketing and has created openings for specialists.

TABLE 8-11 Contribution by Size of Enterprise to Sectoral Employment Change in Canada, 1978-82^a

Sector	Small		Medium		Large		All	
	Employment	%	Employment	%	Employment	%	Employment	%
Unclassified	52 840	7.2	674	0.1	2 735	0.4	56 249	7.7
Primary	10 643	1.4	-3 749	-0.5	-1 620	-0.2	5 274	0.7
Mining	12 665	1.7	5 386	0.7	12 621	1.7	30 672	4.2
Manufacturing	52 434	7.1	-23 938	-3.3	-100 609	-13.7	-72 113	-9.8
Construction	439	0.1	-11 418	-1.6	-12 337	-1.7	-23 316	-3.2
Transportation	18 044	2.5	-2 231	-0.3	11 252	1.5	27 065	3.7
Wholesale trade	32 442	4.4	-7 935	-1.1	5 584	0.8	30 091	4.1
Retail trade	87 894	12.0	-7 208	-1.0	71 869	9.8	152 555	20.8
Finance	23 519	3.2	-5 183	-0.7	15 096	2.1	33 432	4.6
Community services	53 581	7.3	18 125	2.5	97 772	13.3	169 478	23.1
Business and personal services	125 031	17.0	13 536	1.8	42 060	5.7	180 627	24.6
Public administration	13 553	1.8	3 816	0.5	127 383	17.3	144 752	19.7
Total	483 085	65.7	-20 125	-2.7	271 806	37.0	734 766	100.0

Source: Stewart Wells, Assistant Chief Statistician, National Accounts and Analytical Services, Statistics Canada. Presentation to Royal Commission, Small Business Seminar, October 15, 1984. Preliminary figures.

a. Includes changes in part-time employment converted to a full-year equivalent.

TABLE 8-12 U.S. Employment Growth by Major Industry and Enterprise Size Class, 1980–1982

Industry	Total	(data in thousands) Employment Size of Enterprise		
		1–19	20–99	100 or more
All industries	984	2 650	– 2	– 1 664
Agriculture, forestry and fishing	49	72	– 7	– 16
Mining	278	65	28	185
Construction	97	274	– 114	– 63
Manufacturing	– 1 265	274	– 55	– 1 484
Transportation, communications, and utilities	33	146	4	– 117
Wholesale trade	– 82	230	– 29	– 283
Retail trade	152	364	– 40	– 172
Finance, insurance, and real estate	494	302	34	158
Services	1 228	923	177	128

Source: United States Small Business Administration, *The State of Small Business: A Report to the President* (Washington, D.C.: U.S. Government Printing Office, 1984), p. 26.

- Development of the computer-software industry, which requires brains, but not necessarily large financial resources, to start a business.
- A demand for custom-produced goods induced by higher per capita incomes.
- Deregulation (in the United States) has allowed new business formations in industries into which entry was earlier denied.²³

According to this view, changes in labour and product markets and in technology are combining to make the smaller enterprise the preferred institutional form for many productive activities. The growth of employment in the small-business sector is more than merely a response to changes in demand, technology and workers' preferences; it is a reflection of the entrepreneurial character of small businesses:

If small firms are creating jobs, they are doing something that large firms are not on average doing; that is to say, they are finding new markets, both domestically and internationally, they are creating new products, new processes, new forms of business endeavour which are proving themselves to be successful and that is reflecting itself in the formation of more jobs.

(Patricia Johnston-Lavigueur, at Royal Commission, Small Business Seminar, Transcript, October 15, 1984, p. 89.)

While this conclusion is consistent with available facts, Commissioners view it with reservations. The proportion of sales made by small firms has not increased to match employment. Temporary factors prevailing during a turbulent economic period may have produced an upsurge in employment among small firms. U.S. statistics show that over the period 1958–77, the

small-enterprise share of employment and sales declined in most sectors. While recent findings perhaps signify a new trend, only time will tell the whole story.

There are others who believe that fundamental forces are leading to a growth in North American entrepreneurial activity. One economist lists these forces as:

- The rapid evolution of knowledge and technology which is creating new entrepreneurial opportunities.
- Demographic trends that encourage the growth of service industries, where the small business form is most appropriate.
- The development of more adequate venture capital delivery systems.
- An increase in the ability of large corporations to undertake entrepreneurial activities.²⁴

We turn now to the central issue: What can we Canadians do to foster entrepreneurship?

Encouraging Entrepreneurship

Venture Capital

Questions surround the adequacy of the supply of capital available to finance new ventures and expand existing ones, and of measures to increase the supply. During this Commission's hearings, a number of participants emphasized the importance of venture capital and its scarcity in certain industries and lines of endeavour, and at certain stages of development and levels of finance.

One submission, for example, outlined the problems in the software industry:

Because of the small size and newness of companies in this field, and the lack of understanding of the value of the products, conventional financing methods are almost impossible. Typically, a far higher proportion of personal financial resources must be provided by the entrepreneur than in other industries, and this is a particularly prohibitive handicap to the younger (and often more innovative) people. As a result, many valid projects never reach fruition, or reach the market too late because they were undertaken as a "moonlighting" activity, or are not done well enough to compete, or are never started.

(Software Industry Development Association, Brief, September 2, 1983, p. 8.)

Another brief underlined the difficulty of obtaining venture capital to develop new inventions:

[There is a] real problem of [obtaining] start-up money for inventions. The venture capital business does not address that in this country at all. The small business development corporations that Ontario has instituted are a step in the right direction, and certainly that is a help. It still has some constraints which are very limiting. But that whole area of starting up new technologically-based business is one that is very immature in Canada, and needs some support.

(Frank W. Maine, Transcript, Toronto, December 6, 1983 [vol. 61], p. 12803.)

Yet another submission noted the lack of capital to launch small new enterprises:

Most of the problems that I see are the little start-ups, the fellows who need \$100,000 to three or \$400,000 to get off the ground and get going, and it is the step before the institutionalized venture capital companies come into play.

(Calgary Research and Development Authority, Transcript, Calgary, November 7, 1983 [vol. 41], p. 8380.)

Table 8-13 presents evidence on the flow of venture-capital investments by private sector members of the Association of Canadian Venture Capital Companies (ACVCC). The investment flows reported vary significantly over time. While, between 1976 and 1981, venture-capital investment averaged only \$35 million a year, it amounted to more than \$85 million in 1981 and then dropped to \$62 million the following year, reflecting, no doubt, the impact of the recession. In 1983, it rebounded to \$86 million.

A presentation to this Commission's symposium on small business presented further evidence on the stock of venture capital:

In terms of sources of venture capital funding or financing in Canada, I do not believe that there is a lack of funds. Industry estimates made indicate that there is currently some \$1 to \$1.5 billion Cdn. available for venture capital investments. However, a large portion of these funds is available from public sources (particularly provincial) where there may be fewer incentives to sponsor and direct efforts to the best possible ventures than from private source funding. Additionally, in the U.S. a substantial amount of pension and private funds has been directed towards investments in venture capital. U.S.-based pension funds, both public and private, have had a definite impetus in stimulating new product development and start-up venture capital backed firms through direct investments by such private pension funds as AT&T and IBM. U.S. pension fund venture investment dwarfed the total funds invested in venture capital by all pension funds in Canada. For example AT&T pension funds alone invested much more in venture capital than all the pension funds in Canada combined.

(Stuart Feiner, Notes prepared for Royal Commission, Small Business Seminar, October 15, 1984, pp. 2-3.)

Another analyst presents a further insight into the stock of venture capital available in Canada:

Based on information published in the Sources of Funds Index, it is estimated that some \$1.2 billion is now available under the broad definition of venture capital. This compares favorably with the U.S., at least in aggregate, since latest estimates from the U.S. (Venture Capital Journal), sets their total at \$11 billion ... If we remove ... direct government-sponsored funds, as opposed to those which are incentive schemes such as SBDC's [Small Business Development Corporations], the figure for Canada is nearer to \$800 million.

As an indication of the growth of the industry, the full membership in the Association of Canadian Venture Capital Companies, which started only in 1972, has grown from 14 in 1978 to a current 46 full members and 43 associates. In its peak year (1981) the Association reported \$121 million of investment, which was distributed 30% to start-ups, 30% to development stage

TABLE 8-13 Canadian Venture Capital Investments, Domestic and Foreign, 1976-1983

	1983		1982		1981		Average of 1976-1981	
	Number	\$ Millions	Number	\$ Millions	Number	\$ Millions	Number	\$ Millions
Canada	66	86.3	88	61.7	113	85.5	59	34.7
Foreign countries	42	18.7	35	17.2	65	35.4	18	9.4
Total ^a	108	105.0	123	78.9	180	121.2	177	44.1

Source: The Association of Canadian Venture Capital Companies, "Unaudited Information Regarding the Investment Activities of the Association Members", 1983; and Ontario, Ministry of Treasury and Economics, *Economic Transformation: Technological Innovation and Diffusion in Ontario* (Toronto: Queen's Printer, 1984), p. 29.

a. Includes investments with location unspecified.

*companies, 28% to expansion, 4% each in turnarounds and buy-outs—4% was not identified.*²⁵

Overall, the stock of venture capital seems adequate in relation to the practical opportunities presenting themselves, although some consider that government agencies manage too much of the stock. Any problem with venture capital appears to involve communication between investors and entrepreneurs, rather than funding available.

Tax changes could augment the non-government pool of venture capital. Several participants in this Commission's symposium on small business suggested that the federal government should tax capital gains earned by venture capital companies at the capital gains rate. Possible loss of tax-free status inhibits Canadian pension funds from using the most appropriate vehicle for venture capital investment: the limited partnership. One participant in our symposium described the situation as "absolutely ludicrous".

These tax problems have serious consequences:

Under the current Income Tax Act any investment by a pension fund in a limited partnership is considered to be foreign property regardless of where it makes investments and, is therefore, subject to the 10% limit on foreign investment for the pension funds. Since many of the major pension funds are heavily in the U.S. market, they are already at their 10% limit and, with good reason, are loathe to sell liquid securities in order to participate in non-liquid venture funds. Obviously some modification of this ruling would not be difficult and would certainly help venture capital partnerships raise capital. In the case of North American Ventures Fund II, at least \$15 million was "left on the table" because of this foreign content ruling.

*Similarly, in the past year, several venture capital companies have been threatened by Revenue Canada with reassessment on some of their earlier capital gains as income . . . The industry has been operating for many years in a state of stability and reasonable expectation of such capital gains treatment. These recent moves by Revenue Canada are having a major disquietening effect, and if they persist, could effectively staunch the flow of capital into the field, as well as increase the already high hurdle rates of return which venture capitalists apply when looking at prospective investments.*²⁶

What little is known about government venture capital operations does not induce one to argue for their further expansion. A study of the Canada Development Corporation (CDC), a mixed enterprise in which the federal government has a major stake in the venture-capital operation, concluded:

*The Corporation has not fared very well by being involved with venture capitalists, certainly less well than it would have fared, on average, by randomly investing in nonfinancial equities.*²⁷

There is also some indication that the performance of Ontario's venture capital agency, IDEA Corp., has been somewhat disappointing.²⁸

One of the foremost problems is the inability of those with promising proposals to convince would-be investors that theirs is a practical and viable

business proposition. Subsidies might better be given to assist in converting ideas into practical business proposals, rather than in supporting the supply of venture capital.

Other Forms of Finance

The supply conditions of debt and equity capital have received detailed scrutiny recently in a study undertaken for the Economic Council of Canada. The study concluded:

*There is no evidence of important market imperfections in the loan market . . . In fact, this study shows that it is not true that small firms cannot borrow; they have higher debt-to-assets ratios than the larger ones. One may at least question the wisdom of maintaining several lending institutions, at the federal and provincial levels, without any evidence that they are needed.*²⁹

In an earlier report, published in 1982, the Council concluded that there was no generalized credit gap in debt markets, and that the pattern and volume of investment would not have been appreciably different in the absence of government lending programs and institutions.³⁰ Other observers have cited the continuing need for innovative debt financing, particularly given the nature of the security required.

With respect to equity finance, the Economic Council acknowledged that "small businesses in particular, find it difficult to obtain equity finance".³¹ Public policy can amend some of these difficulties. However, the so-called "agency problem" is not so easily remedied. This problem involves the unacceptable way in which an outside equity interest affects the operations of a business.

Difficulties that are potentially amenable to public policy solutions include excessive-issue costs, and "thin" (illiquid) equity markets. The Economic Council suggests that participation in equity markets may be enhanced by changing regulations to encourage increased investments by financial intermediaries in the equities of small and medium-sized firms, and by changing the tax system (that is, the capital-gains tax) to make equity ownership more attractive.³²

This Commission asked a number of intervenors why the Canadian market for junior equities is so "thin" and what can be done about it. These intervenors answered that the thinness of the market itself discouraged many participants, and that the relatively active U.S. market was, in part, an outgrowth of the long-standing pools of non-government venture capital. In Canada, these pools are of recent origin, and many are government managed. The Economic Council contended that one cause of the equity problem was the tendency of financial underwriters to take an excessive "spread" (that is, the difference between issue price and market price after one month) on junior issues. The Investment Dealers Association provided this Commission with evidence that the spread varies considerably according to economic conditions. We have not been able to determine whether this spread is higher,

on average (over many issues and cyclical experiences), than it should be, compared to that prevailing in other areas.

Small Business

The participants in this Commission's small-business symposium suggested some changes in public policy that could benefit small business directly, rather than indirectly through financial markets. One participant argued that deemed realization of capital gains on death of the proprietor made the maintenance of family-owned companies difficult and reduced the incentive of entrepreneurs to build them up. In addition, it was suggested that the tax system should be neutral, as it applies to firms of different size. While debate continues as to whether or not the tax system is neutral, Commissioners agree that it should be so. In this connection, it might be worthwhile to study further the continuing use of flow-throughs and refundability of credits that cannot be claimed against taxable income.

Another participant expressed the opinion that neutrality with respect to firm size should also apply to government-subsidy programs, as the costs of meeting program requirements are simply too high for most young businesses. This is another reason for opting in favour of a tax-based incentive system with refundability.

The symposium produced two other significant points. First, small business would benefit from better-prepared and -screened trainees and from measures that would help to maintain continuity of employment for those being trained. Secondly, we were told:

Governments in the past have used the firm as an instrument for the delivery of social policies without realizing how expensive this is. The overhead costs of actually delivering all the unemployment insurance, payroll taxes and the rest, [are] very high . . . I don't think that policy makers have been sufficiently aware of the costs to the small firm of using the firm as the delivery mechanism for these policies.

(Caroline Pestieau, at Royal Commission, Small Business Seminar, Transcript, October 15, 1984, pp. 67-68.)

While, as a general principle, Commissioners believe that it is reasonable to expect business to contribute to the operation of social policies, we also think that it would be desirable for government to examine possible steps to reduce the disproportionately heavy burden that appears to be imposed on smaller-business enterprises.

In addition, Commissioners suggest that the government consider reducing the degree of "planning regulation". This type of regulation may cover such fields as entry into a particular industry, the manner in which the operation is conducted, and the prices that may be charged. In the judgement of the U.S. Small Business Administration, the extensive move towards deregulation has created entrepreneurial opportunities for a great many enterprises in such areas as trucking and warehousing, communications and banking, which are reflected in increased business formations in these industries. Commissioners

anticipate that similar opportunities would develop in Canada as a result of reduction in regulatory controls.

Notes

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3. *Ibid.*, p. 231.
4. *Ibid.*, pp. 140–41.
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16. Canada, Federal Cultural Policy Review Committee, *Report* (Ottawa: Minister of Supply and Services Canada, 1982), pp. 138, 163.
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21. Conklin, "Entrepreneurship, Innovation and Economic Change".
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23. Patricia Johnston-Lavigueur, at Royal Commission, Small Business Seminar, Transcript, October 15, 1984, pp. 21-24.
24. As discussed by A. Beutel, at Royal Commission, Small Business Seminar, Transcript, October 15, 1984, pp. 104-5.
25. George F. Fells, "Venture Capital in Canada - A Ten-Year Review", *Business Quarterly* 49 (Spring 1984), p. 71.
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Industrial Policy

Industrial Policy in a Canadian Context

Commissioners have chosen to define “industrial policy” in a broad sense to cover all government efforts to promote growth, productivity and the competitiveness of Canadian industries. We recognize, however, that industrial policy means different things to different people. Consequently, we believe that it is important to review what Canadians have said to us about this term before we go on to suggest a fundamental realignment of our country’s industrial policies.

Some observers see the industrial policy of a nation as nothing more than a general framework for public and private sector co-operation, a framework that includes the accumulated trade, tax, expenditure and regulatory policies of the government. Others use the concept in a more particular sense, associating it with the manufacturing sector as distinct from the resource and service sectors. In this context, some see industrial policy as a blueprint for action: for government support of private sector “winners” and adjustment assistance for private sector “losers”.

Still others equate industrial policy with a whole range of general economic development policies: that is, with anything and everything the government does to influence the evolution of the structure of the economy over the longer term. Since private enterprise provides the organizing force for a substantial part of economic activity, a critical prerequisite for successful economic development is the existence of a supportive framework of laws and institutions. Adequate investment in either physical or human capital is unlikely to be forthcoming if the rewards of investment are subject to expropriation or heavy taxation. Similarly, private enterprise is unlikely to flourish and workers are unlikely to be mobile if they are subject to undue red tape. The incentives for aggressive participation in the private enterprise system must be clear. Workers and their families require some sort of basic minimum security if they are to take risks and move to new locations or

change careers. Finally, macro-economic policies must also ensure that output and employment grow at a reasonably even pace, and that inflation is held under control.

Economic development policies embrace such diverse areas as education and training, investment in infrastructure such as roads and airports, tax policies that bear on savings and investment, social security, unemployment insurance, resource policies, tourist promotion and regional development. Some of these policies have much broader goals than economic development alone. Education support is first and foremost a response to the social objective of ensuring that all Canadians receive the necessary education to enable them to participate effectively in all aspects of our society, including the economy. Tax provisions that encourage home ownership are motivated as much by social objectives as they are by aims of economic development. Still, the implications of such provisions for economic development and industrial policy are extremely important.

These implications derive from the fact that in general, resources devoted to one sector become unavailable to another sector, although the return in the form of national or regional benefits may be greater if resources are allocated to a sector with greater potential for growth and development than another. Explicit encouragement of growth in one sector often means implicit discouragement of growth in other sectors. The sectors that are not favoured face stiffer competition for inputs or less favourable demand conditions for their outputs. Encouragement to a favoured sector has to be paid for; subsidies for one sector require higher tax rates elsewhere. Subsidization of investment also raises the demand for capital and thus affects interest rates and the exchange rate. Subsidization of labour in one sector causes the contraction of labour inputs and product-output levels in other sectors. Special tariff or quota protection puts upward pressure on the exchange rate, making exports more expensive abroad and imports cheaper at home; the result is a contraction in the exporting and import-competing sectors other than those that benefit from the special protection.

In part, the diversity of opinion about industrial policy reflects ideological differences among groups in Canadian society, but the variation in views also stems from a far-from-perfect understanding of how the economy works, or what will make it work better. The question is not whether a country should have an industrial policy; whether by design or by default, a country will inevitably have an industrial policy of some kind. The relevant question is to what degree industrial policy should favour some sectors over others. Should government endeavour to be, in some overall sense, neutral in setting its trade policy, tax regime, expenditure program and regulatory framework? Or should it attempt to identify and promote the industrial activities in which the country has, or should have, a comparative advantage? Should government go even further and attempt to engineer a trade or competitive advantage? If Canadians conclude that a targeted industrial policy is indeed the best choice, does it follow that our government is well placed to devise and implement such a policy?

Most of the business sector's presentations to this Commission on the subject of economic development held that any attempt by government to

undertake a comprehensive and targeted industrial policy would be neither feasible nor desirable:

It is [the Board's] conviction that the thrust of government should be to create an environment in which private enterprise can thrive and prosper. The business of government is to govern not to compete actively in the marketplace.

(Saint John Board of Trade, Brief, September 12, 1983, p. 17.)

The role of the state in the Canadian economy . . . has already reached a level that cannot be surpassed without risk of discouraging private initiative.

(Conseil du Patronat du Québec, Brief, October 14, 1983, pp. 8–9.)

We do not believe that a comprehensive national industrial strategy is either feasible or necessary. With respect to the question of feasibility, it must first be shown how an effective, co-ordinated industrial strategy could be developed and implemented on an ongoing basis in such a diverse nation as Canada, in which eleven governments are typically pursuing often divergent policies. Extensive decentralization of economic and industrial policy making powers is simply incompatible with the notion of a co-ordinated national industrial strategy . . .

Another problem that must be addressed in assessing the feasibility of a Canadian industrial strategy is the absence of a clear consensus on what such a strategy would consist of, with the result that various advocates are constantly producing lists of worthy objectives that are in fundamental conflict with each other.

(Business Council on National Issues, Brief, December 6, 1983, pp. 34–35.)

The basis of the business community's argument against government intervention is experience, sometimes bitter experience:

In the past, we have found government policy to be inconsistent, at times contradictory, and not responsive. But more important . . . too much government policy has been developed in isolation without consultation with industry.

(Celanese Canada Inc., Brief, October 14, 1983, p. 10.)

Governments do not have an enviable record in choosing winners or cushioning losers in the marketplace, or managing essentially private sector investments and operations.

(Retail Council of Canada, Brief, November 1, 1983, p. 60.)

The argument goes that if only the government would give the right command—if only it would adopt the right "industrial strategy"—then the country, like a huge army, would get back on the right track again. The advocates of this approach to Canadian economic development do not appear to comprehend that most economic development in this country is taking place despite these kinds of policies, not because of them.

(Andriy J. Semotiuk, Brief, November 3, 1983, p. 3.)

Basically, the business community believes that government should confine its activity to the creation of a positive environment for private sector investment and growth:

Governments have a crucial role to play in economic development . . . Governments must decide the direction the economy is to take and then work with industry to permit it to achieve the desired goals. Governments must create

the environment to which entrepreneurs are attracted and in which they will flourish. Successful economic planning should not result in governments doing the investment or acquiring operating assets . . . Similarly, successful economic planning should not provide support or protection for the non-entrepreneurs in our industry even when they are Canadian companies.

(H.N. Halvorson, Consultants Ltd., Brief, August 19, 1983, p. 4.)

The economic problems currently facing Canadians (slower growth, poor productivity performance, structural unemployment, shifts in export markets, etc.) indicate a need for a fundamental re-structuring of the economy . . .

This needed restructuring will require a constructive and co-operative joint effort by business and government. Government definitely does have a role to play in such efforts but this role must be clearly defined. New directions in industrial development must come from the business sector itself.

(Burns Fry Limited, Brief, November 24, 1983, p. 1.)

A second, quite different view is that government's proper role in industrial policy is that of a "guiding hand". Proponents of this view insist that the private sector and the public sector must work together to devise strategy and tactics that will reinforce the competitive position of domestic industry at home and abroad. Some observers attribute Japan's spectacular rise to the close co-operation between its private and public sectors and, particularly, to the catalytic role of government in providing a focused process for the taking of decisions on new industrial initiatives. Several newly-industrialized countries (NICs) have followed the Japanese example, with some apparent success. In the view of those who see a relationship of cause and effect between an active industrial policy and positive economic performance, Canada and the United States cannot afford to be passive bystanders. To meet off-shore competition, they argue, North American economies, too, may have to emulate, at least partially, the co-operative industrial/government relationship practised by Japan.

A number of representations to this Commission suggested that employment considerations, not economic growth as such, ought to be at the forefront of public policy. Many social service and labour groups doubt that economic growth is fully reflected in job creation and job security. They believe that government should play a strong role in guiding industrial policy in order to ensure that employment is a priority:

Private enterprise is only interested in profits and the largest possible return on their invested capital. They are not interested in creating jobs . . .

If the business establishment is not responsible for providing employment, it is obvious that the government must be prepared to make the necessary decisions or recommendations that will benefit all of society, not just a privileged few.

(United Steelworkers of America, Local 6500, Brief, October 3, 1983, p. 2.)

The role of government in economic decision-making must be much more instrumental in the achievements of socially desirable and democratically determined investment and production goals. Private profitability should not be the sole [criterion] for measuring contribution to social need . . . The alternative

is a system where community based initiatives and entrepreneurship form the basis of a rational economic policy for full employment. Planning to meet human/social needs becomes the function of economic policy.

(Social Planning Council of Metropolitan Toronto, Brief, November 9, 1983, p. 79.)

The current approach in business circles of advocating a reduced role for government in the economy does not make sense in light of these impending issues. To the extent that business cannot reasonably be expected to promote the public interest at the expense of markets and profits . . . it is the responsibility of government to provide [business interests] with incentives and constraints that will ensure that their actions also serve the public's well-being. When this is not possible, government has to perform these functions itself. That includes making public investments when private investments are insufficient to keep the economy at a high employment level.

(Canadian Mental Health Association, Brief, October 31, 1983, pp. 18-19.)

Those who favour an active role for government in directing industrial policy have seldom been any more specific than those who consider that government's role should be limited. Nonetheless, the following excerpts from briefs to this Commission give some flavour of what the assumption of an activist role by government would involve:

In a democratic political system only government can have the power, and only government can be entrusted with the responsibility to maintain economic stability and employment, and secure a fair distribution of income.

(United Steelworkers of America, Brief, October 28, 1983, p. 10.)

The impact of new technology is so widespread and impacts in so many ways that it will take government action to create the kind of framework that we think is necessary to cope in the years ahead. In our view, it is really a case of the government acting in advance to maximize our ability to build a fair and just society of opportunity.

(Communications Workers of Canada, Transcript, Edmonton, November 15, 1983 [vol. 46], p. 9421.)

We . . . propose that the Commission clearly recognize the increased role which government must assume in economic affairs in order to ensure a society of equity and security, as well as initiative, from which no one will be left out. Let the Commission clearly define the share of responsibility which should fall to the federal, provincial, and municipal governments respectively. Let the Commission at the same time declare that the federal government must in addition be ultimately responsible for making sure that the provinces, and through them the municipalities, assume and faithfully discharge the share of responsibility which falls to them, and that they do so in such a way that minimum acceptable standards are retained throughout the country.

(Ontario Public Service Employees Union, Brief, November 16, 1983, p. 49.)

A regeneration of dynamism in industry . . . cannot, in our opinion, rest principally on the initiative of private enterprise. To the contrary, the success of such a strategy implies an extension and a deepening of economic intervention by the state. (Centrale de l'enseignement du Québec, Brief, November 23, 1983, p. 61.)

Clearly, Canadians have widely divergent views about the extent to which government should involve itself in the promotion of economic growth and employment. It would seem, in fact, that relatively few observers recognize the existence of any viable middle position between a strict "hands-off" approach to industrial policy and a highly interventionist approach. Yet it is reasonably certain that neither of the extreme positions is tenable. A fundamental change is taking place in the world economy, a change that casts doubt on the wisdom of the hands-off approach. Commissioners recognize that opposition to a more active role for government arises, in no small measure, from adverse experience with the growth in government intervention since the early 1960s. It is precisely because intervention has often been unsuccessful that we have undertaken to consider what can be done to develop a sounder and more fruitful working relationship between government and the private sector.

At the same time, our analysis leads us to conclude that governments generally lack the capability to orchestrate, or even formulate, a comprehensive, detailed, industrial strategy of the kind advocated by the more ardent interventionists. Even if a detailed strategy were possible, it would not be desirable. The world is just too complex, and the need for flexibility and adaptability too great, to justify confining the private sector in such a strait-jacket.

Canadian Industrial Policy in Historical Perspective

Canadian industrial policy has evolved through four general phases in response to changing circumstances at home and abroad. In the period from 1867 to 1914, a substantial emphasis was placed on tariff protection and the subsidization of secondary industry, and major investments were made in infrastructure in transportation and other areas. During the years between the two World Wars, the catastrophic impact of the Great Depression led to a focus on policies aimed at restoring and sustaining demand. Between 1945 and 1957, industrial policy, broadly defined, included macro-economic stabilization policies devised in the Keynesian tradition, concerted moves to reconstruct the peacetime economy, strong incentives for foreign investors, and a second National Policy that relied heavily on a new underpinning of social welfare programs. Finally, the period from 1957 to the present has witnessed a series of moves towards freer international trade and towards continental integration of certain sectors such as the automotive industry, defence production, and crude oil and natural gas production. This period was marked by growing domestic ownership of the Canadian economy and, in the 1960s and early 1970s, by increased government involvement in promoting development in slow-growth regions. In addition, government provided more assistance for industries and for particular companies confronted by severe competition at home or abroad, by obsolescence or by declining demand; it also provided increasing support for existing or new companies to enable them to keep pace with rapidly emerging economic developments around the globe.

Federal Industrial Policies

In the 1950s, federal industrial policy included encouragement to foreign, primarily American, direct investment and a continuation of Canada's efforts, in concert with those of other countries, to entrench a stable international monetary system and a liberal trade regime. These moves generated considerable prosperity, but they also led to growing concern about the extensive degree of foreign ownership in both the manufacturing and the resource sectors.

The election in 1957 of the Conservative government of Prime Minister John Diefenbaker resulted, in part, from the disaffection of some regions that had not shared fully in the post-war prosperity. The Diefenbaker government sought to make industrial policy more directly responsive to regional concerns. The National Oil Policy of 1961 strengthened the petroleum sector in the Western provinces. The government also sought to shift trade away from its growing dependence on the United States. Nevertheless, it quickly became involved in decisions that reflected the changing structural realities of the North American economy. Thus the cancellation of the Avro Arrow aircraft program led ultimately to the Canada-U.S. Defence Production Pact, under which Canada obtained guaranteed access to the American defence-procurement market.

The early and middle 1960s brought a renewed emphasis on the manufacturing sector. This emphasis was reflected in the establishment of a new Department of Industry, and it was made even more evident in the negotiation by the Pearson government of the Canada-U.S. Auto Pact. The 1960s also produced further tariff reductions under the Kennedy Round of negotiations under the General Agreement on Tariffs and Trade (GATT). In the middle and late 1960s, there was a growing debate on the underlying technological competitiveness of the Canadian economy; much of this debate centred on the question of "science policy" and the adequacy of Canada's research and development (R&D) incentives. Fundamental changes were made in the nature and extent of federal support for employment training and education. Before the decade ended, the federal government had created the Department of Regional Economic Expansion (DREE), which was to provide a focus for the development and co-ordination of regional policy. Meanwhile the establishment of the Department of Consumer and Corporate Affairs prepared the ground for a sustained effort to develop more effective competition policies.

The growth in federal support for employment training and education was dramatic. An initial increase in federal grants to universities culminated in a 1967 federal-provincial agreement under which the Government of Canada would provide 50 per cent of the operating costs of post-secondary educational institutions through a combination of cash grants and the surrender of tax points. Under the Technical and Vocational Training Act of 1960 and the programs that succeeded it, the federal government encouraged job training, first through a shared-cost program and then, beginning in the late 1960s, through the purchase of accommodation and courses from the growing provincial certificate- or diploma-granting institutions.

It was only in the 1970s, however, that the federal government came to identify its evolving bundle of policies as an industrial strategy. In 1972, Jean-Luc Pépin, then Minister of Industry, Trade and Commerce, announced that he and his department were embarking on the development of a "better" industrial strategy, which he described as an "ensemble of coordinated objectives and instruments, i.e., policies, programs and institutions."¹

External shocks of varying orders of rapidity and magnitude confirmed the need for a more closely co-ordinated approach. These shocks included the policies initiated by President Richard Nixon in an effort to deal with pressing U.S. balance-of-payments problems and the 1973-74 crisis imposed by the Organization of Petroleum Exporting Countries (OPEC). Canada's evolving industrial strategy focused heavily on the development of a secondary manufacturing sector. Increasingly, the federal government undertook various kinds of consultation with key interests, including business, labour and the provincial governments.

A number of other political and economic developments during the 1970s had a bearing on industrial strategy and its evolution. The Foreign Investment Review Agency (FIRA) was established to advise the government on whether or not to authorize foreign investments in Canada, and to negotiate terms that would maximize the benefits available to this country from such investment. The Tokyo Round of GATT negotiations, which took place between 1973 and 1979, had a significant effect on the industrial climate, as did the controls imposed on profits and incomes under the Anti-Inflation Program of 1975-78.

The federal government experimented with other policy initiatives, as well. The Canada Development Corporation, which was established in 1971 with a provision for mixed public and private ownership, subsequently acquired assets in many sectors of the economy. In the same year, the Government of Canada sought to devise better policies on science and technology by creating a Ministry of State for Science and Technology. In 1975, with the creation of Petro-Canada, it moved directly into oil and gas exploration, production and marketing.

Despite all these activities, federal industrial policy had little clear focus during most of the 1970s, nor did the exercise launched early in the decade by Mr. Pépin result in the emergence of a comprehensive statement of the government's industrial strategy during the 1970s. Federal support for Canada's economy represented "a patchwork of industry-by-industry and some across-the-board incentives and programs, produced without much consultation with business and labour."² Responsibility for industrial policies was scattered across several government departments.

In the late 1970s, the Department of Industry, Trade and Commerce attempted to build a consultative process from the bottom up. This initiative involved discussions of the process at a First Ministers' Conference in February 1978, followed by the establishment of 23 sectoral task forces covering 21 manufacturing industries, plus construction and tourism. The task forces were composed of representatives of business, labour, the federal and provincial governments, and the academic community. In their reports, they proposed a strategy for the development of each sector. Many of them

called for increased government assistance for their respective sectors through tax breaks and other measures.

The sector task forces, which became known as “Tier 1 committees”, were succeeded by the so-called “Tier 2 committee”, which was directed to make recommendations that cut across sectoral lines and involved broad economic policy issues. However, by the time the Tier 2 committee reported, in the fall of 1978, the federal government had embarked on a series of budget cuts and other restraint measures which greatly reduced the prospects for substantial new assistance to industry. The emergence of a powerful small-business lobby further changed the political calculus of industrial policy, since it demanded greater attention to the needs of smaller firms and the fast-growing service sector. The small-business sector was very sensitive to regulatory and tax burdens.

In 1978, the federal government assigned the task of co-ordinating development spending to a new committee of the Cabinet, the Board of Economic Development Ministers (BEDM)³. This committee was to be headed by a president and served by a new central agency, the Ministry of State for Economic Development (MSED). In 1980, amid growing economic difficulties, the minister responsible for MSED, Senator H.A. (Bud) Olson, announced an agenda for economic development that attempted to shift emphasis from the needs of specific industries to the strength of basic factors of production, such as human resources, capital and technology.

Internal government debate about appropriate development strategies in light of changing circumstances subsequently gathered new momentum. This debate not only involved renewed concerns about the extent and utility of government intervention, but also reflected the broader controversy taking shape over such matters as the Constitution and federal-provincial relations generally. All of this boiled down to a battle between the proponents of rival concepts of the nature of Canada and the way in which the country should evolve in the future. The outcome of the debate was a statement on economic development presented in the November 1981 budget. The 1981 “Economic Statement” was related to the National Energy Program introduced a year earlier. It was based on the fundamental view that Canada’s opportunities lay in the development of its rich bounty of natural resources. The statement did not ignore manufacturing, but it linked future development in this sector to the need for manufactured goods produced by the rapidly growing resource industries. By this means, its proponents sought to bridge the interests of Atlantic, Central and Western Canada. The approach was influenced by the (Blair-Carr) Task Force on Major Projects,⁴ which recommended the establishment of an Office of Regional and Industrial Benefits within the Department of Industry, Trade and Commerce.

Soon, however, the worsening of Canada’s economic situation brought the new strategy into disrepute. The break in world oil prices after 1981, the escalating federal budget deficit, soaring inflation and record levels for interest rates combined to produce a totally different context for policy measures. The downward movement of world oil prices, in combination with other economic factors, resulted in the abandonment or suspension of many of the energy megaprojects and cast doubt on the fundamental assumption that

lay behind the new industrial strategy. This assumption consisted of the view that a permanent improvement had taken place in the terms of trade for natural resources in relation to those for manufactured goods. The Economic Statement seemed to demonstrate the difficulties of attempting to combine political and economic objectives in a concerted industrial strategy and, indeed, of formulating any type of strategy that would prove effective for an extended period in an uncertain and changing world.

Provincial Industrial Policies

During the 1960s and 1970s, industrial policy questions involved federal-provincial relationships of increasing complexity. Alternative strategic approaches—particularly insofar as they meant a choice between giving priority to the manufacturing sector and giving it to the resource sectors—inevitably favoured some regions over others.

Even without the constitutional division of powers between the two levels of government, it would have been difficult to devise industrial policies that would bridge the different interests of different regions and, at the same time, ensure that benefits would be widely distributed. As matters stood, these constitutional divisions complicated the situation even further. First, they enabled provinces to pursue industrial strategies designed to maximize benefits for their own citizens. This consideration naturally raised concerns about interprovincial competition and internal barriers to trade which could reduce the efficiency of the economy as a whole.

Secondly, provincial control over so many of the jurisdictional areas critical to economic development policy, such as natural resources, education, labour relations and securities regulation, meant that a high degree of co-operation and co-ordination would be necessary if effective national policies were to be formulated and implemented. These policies would, in fact, have to be devised jointly by federal and provincial governments, and they would be very hard to develop in the context of the heightened interregional and intergovernmental conflict of the 1970s. The circumstances gave rise to a paradox. Regional diversity required that policies be devised to assist specific regions of the country. However, decisions involving such allocations—whether an auto plant was to be built in Quebec or in Ontario, for example, or how the counterpart of industrial benefits deriving from Canada's acquisition of a new U.S.-designed jet fighter were to be distributed among the regions—became matters of continuing controversy.

During the 1970s, many provincial governments intensified their attempts to promote economic development. They were able to do this because of the growth that had taken place in their financial and bureaucratic resources during the 1950s and 1960s. Massive energy revenues dramatically expanded the resources available to the Prairie provinces, especially Alberta, and became the basis of aggressive strategies to diversify those provinces' economies. The range of policy tools also expanded. In particular, the provinces began to make much more active use of public enterprise to promote regional development. Of 233 provincial Crown corporations identified in 1983, 76 had been created after 1960, and 48 after 1970.

In addition, the provinces introduced policies that were aimed, much more explicitly than any provincial policies in the past, at counteracting the adverse effects on their economies of both the forces of the market-place and the policies of the federal government. The concept of their pursuing only activities in which their own regions had a comparative advantage was partially rejected. More and more provinces sought to use their resources to broaden their economic bases. Moreover, some provincial policies were introduced to counter federal policies that were seen to be discriminatory or ineffective. Throughout the 1970s, it was a matter of vigorous debate whether the condition of the outlying provinces was simply a consequence of impersonal market forces or the result of the misapplication of federal power.

Whatever the cause of regional disparities, provincial policies were directed to redressing them and to forcing changes in the regional distribution of private investment. The champions of this approach saw the province, rather than the nation, as the economic unit in which wealth was to be maximized. As Premier William Bennett of British Columbia told the 1978 First Ministers' Conference on the economy:

In listening to my fellow First Ministers here, I must say that what has come out clearly to me, is . . . that we are not a single national economy; we are a country with distinct regions, with distinct economies unique to themselves, that need the attention and cooperation of the governments in meeting their own specific aspirations and needs.⁵

The provinces' industrial policies varied with their economic conditions and needs, their available resources, the ideologies of their governments, and the pressures that private interests brought to bear on their leaders. The goal of the Western provinces was to use the new revenues provided by the energy boom to strengthen and diversify their economies, to redress their historic economic and political grievances, and to force a shift in political power. Alberta and Saskatchewan had, perhaps, the most explicit and concerted provincial industrial policies of the 1970s.

Alberta's plans for diversification emphasized the encouragement of local processing of energy and agricultural resources. The province hoped that this strategy would result in expansion of industry, growth in employment, and the enhancement of its political power and influence. The provincial government adopted many means to promote these goals. One such means was the Alberta Heritage Savings and Trust Fund, into which the province funnelled about 30 per cent of its annual oil and gas revenues in order to create a large pool of capital for subsequent investment. By 1984, the fund held \$13.7 billion in total assets.

Another provincial undertaking was the joint public-private Alberta Energy Company Ltd. In 1974, the province acquired Pacific Western Airlines, a company that it considered could play an important part in reinforcing its position as the "gateway to the North". The government also actively supported the transformation of Alberta Gas Trunk Line Ltd. into Nova, an Alberta Corporation. The original company was established in the 1950s to gather and distribute gas inside the province and to deliver it to other pipelines for transmission beyond its borders. The change of name

reflected the company's rapidly expanding interests in major petroleum-related projects across North America and around the world. Two new agencies, the Alberta Oil Sands Technology and Research Authority and the Alberta Research Council, were set up to encourage the processing of Alberta's resources within the province. Through these and other agencies, development funds were channelled into such areas as petrochemicals, tourism, forestry, high technology and medical research. The province encouraged small business through changes in the corporate tax system and other measures; it also promoted the transfer to the province of head-office activity, particularly in the oil and gas industry.

Saskatchewan developed an explicit industrial strategy based on a high degree of public ownership. Its New Democratic Party (NDP) government took control of a significant part of the potash industry in the 1970s, and played a major entrepreneurial role in other resource sectors, including oil, mining and, especially, uranium. It promoted industrial development through the Saskatchewan Economic Development Corporation and a variety of other means, including support for research and for expansion of the West's largest steel maker, Interprovincial Steel. In 1983, Saskatchewan, like Alberta, established a heritage fund.

British Columbia's industrial policy has traditionally focused on the development of such resource sectors as mining and forestry. The province has undertaken major rail and highway projects and aggressive development of its hydro resources. In the 1970s, it, too, began to press for diversification of its economy through stimulation of manufacturing and promotion of high-technology industries. Manitoba governments have been active in promoting forestry and power developments in the North, and have also established a wide variety of programs to aid manufacturing.

On the east coast, Newfoundland has emulated the strategy of Alberta and Saskatchewan, seeking to obtain greater control over its own resources as a means of promoting economic development. After experiencing a series of failures in earlier development projects, such as the Come-by-Chance oil refinery and the Stephenville Linerboard mill, the province's industrial policy now emphasizes the further processing of its resource endowments. In addition, the manufacturing sector is being encouraged to produce goods, such as fishing equipment, complementary to the province's industrial structure. The Newfoundland government has argued that in order to pursue the development of "Newfoundland for Newfoundlanders" and to preserve the fabric of the maritime rural community, it is vital for the province both to control its offshore oil and gas development and to exercise greater control over the fishery.

Nova Scotia's industrial policies have concentrated on the long-standing problems of the Cape Breton coal and steel industry, and on the development of manufacturing, especially in the Halifax-Dartmouth and Strait of Canso areas. The province has sought to link development to the offshore resources of fish and oil, and to promote diversification of its industries into high-technology manufacturing. A similar mix of incentives, subsidies, grants, provision of infrastructure, and procurement policies has been used in Prince Edward Island and New Brunswick, but generally these provinces have not

acted as aggressively as a number of others. One indication of this restraint is that in 1980, when Newfoundland had 42 provincial Crown corporations, the largest number in the country, each of the other three Atlantic provinces had fewer Crown corporations than any of the remaining provinces.

If the primary goal for Western and Eastern Canada is to shift economic development in their direction and end their dependent status, the challenge for Central Canada is to preserve and expand its manufacturing economy in a changing world economy. Between 1970 and 1977, Ontario's share of gross domestic product (GDP) dropped from 41.9 per cent to 39.2 per cent; its growth rate was among the lowest in the country. Both Ontario and Quebec experienced major structural shifts as a result of changes in economic patterns in the United States and in the world at large. Measures taken by Ontario to encourage industry have included the founding of an Employment Development Fund which, among its other projects, has helped the Ford Motor Company to build an engine plant in the province and promoted capital investment in pulp and paper. In 1981, Ontario brought all of its industrial development activities under the umbrella of a cabinet committee, the Board of Industrial Leadership and Development (BILD). The province planned to concentrate on resource development, development of rail and urban transit technology, and increased nuclear generation and rail electrification, which would minimize its dependence on imported oil. It also established several technology-development centres to encourage advances in computer technology and related fields. The provincial government, however, has avoided any claim that it is following a grand industrial strategy.

Since the early 1960s, the makers of Quebec's industrial policy have sought both to promote the growth of the province's economy and to increase francophone participation in that economy. In pursuit of these goals, the Quebec government has stressed the function of provincial Crown corporations. Hydro-Québec and the James Bay Development Corporation have made hydro development a major engine for growth. Francophone participation in industry has been strongly encouraged by Crown corporations active in the financial sector. Important Crown corporations include the *Société générale de financement*, an investment and holding corporation; the *Société de développement industriel du Québec*, which provides development loans and grants; and the *Caisse de dépôt et placement du Québec*, which manages the assets of the Quebec Pension Plan (QPP). Through these agencies, Quebec has invested in a wide variety of provincial industries. Besides trying to support traditional industries, the province has done more in recent years to promote technologically advanced industries. It has also gone further than most provinces, through a series of economic "summits" and related activities, in building mechanisms for consultation between government and the private sector.

Financial Support for Industrial Development

Table 9-1 gives an indication of the overall importance of direct financial assistance by the federal government to the manufacturing sector during the 1960–80 period. Federal financial assistance in the form of various subsidies

TABLE 9-1 Federal Grants to the Manufacturing Sector

Year	Total: Millions of Current \$	Total: Millions of Constant 1971 \$	Grants Relative to Value Added	Grants as a Percentage of Total Federal Expenditures	Grants as a Percentage of Manufacturing Investment
1960-61	4.4	6.2	0.042	0.084	0.177
1961-62	8.0	11.0	0.077	0.139	0.330
1962-63	33.7	45.9	0.295	0.552	1.444
1963-64	64.4	86.2	0.525	1.000	2.985
1964-65	59.5	77.7	0.440	0.827	2.182
1965-66	76.0	96.2	0.509	1.054	2.293
1966-67	81.3	98.3	0.497	1.011	2.028
1967-68	107.7	125.7	0.633	1.177	2.919
1968-69	103.3	116.5	0.563	1.029	3.011
1969-70	159.0	171.7	0.790	1.441	4.071
1970-71	177.7	183.4	0.886	1.349	3.829
1971-72	249.1	249.1	1.146	1.634	5.563
1972-73	258.8	246.5	1.067	1.456	5.620
1973-74	282.2	246.2	0.982	1.366	5.051
1974-75	301.1	227.9	0.858	1.161	4.147
1975-76	295.5	202.0	0.818	0.886	3.709
1976-77	323.9	202.2	0.811	0.929	3.876
1977-78	275.6	160.8	0.625	0.707	2.965
1978-79	287.5	157.7	0.558	0.676	2.942
1979-80	410.0	203.9	0.676	0.866	3.552

Source: André Blais, Philippe Faucher, and Robert Young, "L'Aide financière directe du gouvernement fédéral à l'industrie canadienne, 1960-1980", Notes de recherche 12 (Montreal: Université de Montréal, Département de science politique, 1983).

and grants increased rapidly during the 1960s. Financial assistance in real terms (that is, discounting inflation) peaked in the early 1970s and fell steadily until 1979-80. In that year, direct financial assistance to the manufacturing sector accounted for less than 1 per cent of total federal expenditures; it also accounted for less than 1 per cent of total value added in the manufacturing sector. On the other hand, federal financial assistance constituted as much as 5.6 per cent of manufacturing investment in the early 1970s; in 1979-80, the figure was 3.5 per cent.

The overview of federal financial assistance to the manufacturing sector presented in Table 9-1 incorporates many programs. Almost all of these programs have been substantially modified or restructured over time, but only a very few of them have been phased out. The majority of the programs are discretionary rather than automatic: that is, instead of providing funds on the basis of some prescribed formula, they require firms to persuade the administering department that the project for which assistance is requested could not be undertaken in the absence of support. Most automatic-assistance programs are related to research and development, training and the shipbuilding industry. During the 1960s and 1970s, a disproportionate share

of financial assistance went to declining sectors, slow-growth provinces, and big business.

At present, the single most important federal financial assistance scheme is the Industrial and Regional Development Program (IRDP). Assistance under the IRDP is available for each stage of project development: innovation, plant establishment or modernization and expansion, marketing, and restructuring. The program uses an indexed tier system that distinguishes census regions on the basis of a number of economic measures. The rate of subsidy varies between 25 and 75 per cent, depending on the employment and income levels of the census region and the financial capacity of the province. Estimated expenditures for 1984–85 stand at about \$470 million. Other major federal subsidy programs include the Defence Industry Productivity Program, the Shipbuilding Industry Assistance Program, the National Industrial Training Program, and the Canadian Industrial Renewal Program.

The estimated value of federal corporate tax incentives is shown in Table 9-2. Over the 1960s and 1970s, the value of these tax incentives increased almost tenfold even in constant dollar terms. Still, their value was small relative to total value added in the manufacturing sector. In the mid-1960s, corporate tax incentives exceeded 2 per cent of total value added, but they fell sharply in importance thereafter. New measures introduced in the 1970s reinforced the importance of corporate tax incentives, returning them to the 2 per cent level by 1979. The contribution of corporate tax incentives to investment decisions is difficult to assess because these incentives often change substantially over time. Indeed, some observers argue that the uncertainty generated by frequent modifications to the corporate tax law significantly discourages investment. Within the manufacturing sector, only industries related to resource processing benefit disproportionately from tax incentives. Furthermore, the effective tax rate does not vary significantly according to the size of the firm. Thus the corporate tax system is largely neutral as an industrial policy instrument within the manufacturing sector, even though some tax incentives are substantial.

At least since the early 1970s, however, the Canadian tax system has tended to favour investment in manufacturing plant and equipment. Investment in most service sectors does not generally bring any special tax advantages. The fact that small business, which does receive relatively favourable tax treatment, accounts for a large share in many service sectors may mean that the average effective tax rates on the return to capital may be no higher in the service sector than they are in the manufacturing sector. Three provisions of the corporate tax system are of key importance: accelerated capital-cost allowances for machinery and equipment used in manufacturing processes; a preferential rate of tax for manufacturing corporations; and the investment tax credit, which varies from 7 per cent to 50 per cent, depending on the region and the nature of the business investment.

Gauging the nature and overall extent of provincial initiatives is difficult. The provinces vary widely in both their fiscal and their political capacity to engage in activist industrial policy. In part, because the Atlantic provinces and Manitoba are more dependent than the other provinces on federal

TABLE 9-2 Federal Corporate Tax Incentives: Manufacturing Sector

Year	General Tax Incentives			Selective Tax Incentives		
	Millions \$		Percentage	Millions \$		Percentage
	Total: Current \$	Total: Constant 1971 \$ ^a	Tax Benefit Relative to Value Added	Total: Current \$	Total: Constant 1971 \$ ^a	Tax Benefit Relative to Value Added
1960	63.5	88.1	0.61	46.5	64.5	0.45
1961	83.0	115.3	0.80	68.0	93.8	0.65
1962	176.5	239.8	1.54	131.6	178.8	1.15
1963	181.5	242.3	1.48	184.8	246.7	1.51
1964	214.7	279.2	1.59	203.7	264.9	1.50
1965	287.4	362.9	1.93	323.5	408.5	2.17
1966	423.8	511.2	2.59	429.5	518.1	2.62
1967	237.0	275.9	1.39	260.0	302.7	1.53
1968	130.0	146.2	0.71	229.9	258.6	1.25
1969	174.0	187.5	0.86	202.0	217.7	1.00
1970	153.1	158.0	0.76	132.0	136.2	0.66
1971	172.2	172.2	0.79	178.2	178.2	0.82
1972	120.1	144.4	0.49	233.8	213.1	0.92
1973	405.7	354.0	1.41	379.0	330.7	1.32
1974	456.4	345.5	1.30	594.6	450.1	1.69
1975	430.5	294.3	1.19	570.9	390.2	1.58
1976	463.8	289.5	1.16	532.3	332.3	1.33
1977	472.0	275.2	1.07	528.5	308.2	1.20
1978	919.5	503.3	1.79	751.9	411.5	1.46
1979	1085.0	539.5	1.79	1214.8	604.1	2.00

Source: André Blais, Philippe Faucher, Robert Young, and Roger Pouport, "Les avantages fiscaux du gouvernement fédéral à l'industrie manufacturière canadienne", Notes de recherche 13 (Montreal: Université de Montréal, Département de science politique, 1983).

a. Deflated by the Consumer Price Index.

transfer payments, they simply have less financial room for manoeuvre. This Commission's research on federal and provincial budgeting shows that the share of provincial spending (in per capita constant dollars) devoted to economic-development activities declined markedly in most provinces between 1960 and the mid-1970s, and has increased only slightly since then.⁶ This is a somewhat surprising trend, given the provinces' recent efforts to develop their economies. Many of these efforts, however, have employed regulatory and other instruments, as well as expenditure. Part VI of this report analyses the implications for the economic union of provincial industrial policy initiatives. The analysis concludes that the impediments to the movement of labour, capital, and goods and services within Canada do not, at least as yet, seriously injure our overall competitive position. In any event, national policies, such as the policy of holding domestic oil price below world price, have played a more pervasive role in influencing resource allocation.

Notes

1. As cited in Richard D. French, *How Ottawa Decides: Planning and Industrial Policy-Making 1968-1980* (Ottawa: Canadian Institute for Economic Policy, 1980), pp. 105-6.
2. G. Bruce Doern and Richard W. Phidd, *Canadian Public Policy: Ideas, Structure, Process* (Toronto: Methuen, 1983).
3. BEDM was later renamed the "Cabinet Committee on Economic Development" and, still later, the "Cabinet Committee on Economic and Regional Development".
4. Canada, Consultative Task Force on Industrial and Regional Benefits from Major Canadian Projects, *Major Canadian Projects: Major Canadian Opportunities* (Ottawa, 1981).
5. W.R. Bennett, "The British Columbia Position: Towards an Economic Strategy for Canada", opening remarks at the Conference of the First Ministers, Ottawa, February 13, 1978, p. 1.
6. Allan M. Maslove, Michael J. Prince, and J. Bruce Doern, *Federal and Provincial Budgeting*, vol. 41 (Toronto: University of Toronto Press, 1985).

Industrial Policy In Canada and Abroad¹

The debate over how best to bolster industrial growth and development is by no means unique to Canada. Virtually every advanced country, including the United States, is undergoing the same searching process. Many of the submissions to this Commission expressed an interest in what Canadians might learn from the successes and failures resulting from other countries' efforts to strengthen their industrial bases. It is important, of course, to remember that many approaches which work well abroad might not be successfully transplanted to Canada without considerable adaptation and modification. Even so, it is still well worthwhile to compare with our own the approaches adopted by other nations. Not surprisingly, given Japan's miraculous flowering as an industrial nation, both its national approaches to industrial development and the management practices of individual Japanese companies and industries have attracted considerable attention. Other countries, too, have developed policies and programs that are worthy of study.

Any comparison of industrial policies among countries is complicated by several factors. First, there are many kinds of industrial policy instruments: these can be applied in varying degrees and in different combinations, and the data relating to them can be assembled in different ways. Moreover, as Commissioners have already noted, the distinction between economic-development policy and industrial policy as such is not always clear. Again, in the view of a number of observers, the manner in which policies are determined and implemented is at least as important as the policies themselves.

In the review that follows, Commissioners do not attempt to make a precise distinction between general policies and instruments used to achieve particular goals. We seek, instead, to compare developments in other countries with developments in Canada, in five broad areas of relevance to industrial policy: regional development, policies intended to encourage economic openness to the world economy, technological progress, direct government involvement, and institutional-regulatory/framework areas such as competition policy and banking. Last, but certainly not least, we consider efforts to direct measures to specific firms. Our review ends with an attempt to summarize the overall orientation of various national industrial policies and to relate this summary to the economic performance of Canada and certain other industrial countries.

Regional Policies

National governments differ in the emphasis they place on regional development policies. The United States, for example, offers no explicit regional development incentives, although most other industrial countries do so. The U.S. Congress has used the defence budget and major agencies such as the National Aeronautics and Space Agency (NASA) to pursue the same kind of regional development results as Canada has pursued through explicit regional development programs.

Britain's regional development incentives have their roots in policies formulated in the 1920s to retard the decline of the textile, shipbuilding and coal-mining industries in northern England and Scotland. Since that time, policies of providing aid to depressed regions have been formalized in legislation that has created a hierarchy of assisted regions. The principal tool for regional assistance in the United Kingdom is the non-discretionary regional development grant. The grant is received automatically by any firm in possession of an Industrial Development Certification. Its level is equal to a proportion of qualifying assets, which varies with the location of a given firm. The regions that receive the greatest assistance are called "Special Development Areas" (SDAs); Development Areas (DAs) and Intermediate Areas (IAs) receive lower levels of assistance.

Forty-nine per cent of the aid granted to industries in West Germany is channelled through regional development programs that are funded equally by the federal and state governments. The emphasis of regional development programs has shifted from assistance aimed at sustaining particular enterprises to measures specifically designed to promote increased productivity and investment. All programs are open to both foreign and domestic enterprises. Over the past decade, the average annual budget for regional programs has been \$4 billion (in 1980 U.S. \$), or 15 per cent of total German industrial investment during this period. Assistance is distributed to regions and not to specific industries, with special emphasis on the Ruhr, the Eastern Border Zone, and West Berlin. The Program for the Improvement of Regional Economic Structure identifies less-developed regions on the basis of employment opportunities, income per capita, and the level of regional infrastructure.

Accelerated depreciation allowances of up to 50 per cent of the value of assets are available to operations in the Eastern Border Zone and West Berlin. The allowance is limited to new depreciable investment. In addition to an investment allowance, projects may also receive a discretionary investment grant. Ceilings for the grant are set at 15 per cent of investment if the project is in a normal growth area, 20 per cent if it is in an area fairly close to the eastern border, and 25 per cent if it is in the border zone. The condition for assistance is that the project create 50 new jobs or provide a 15 per cent increase in the employment level of a firm.

Another West German program provides aid to regional industry associations. Applications for aid must be approved by a bank, and the bank must commit a substantial proportion of the funds required. This condition ensures an important role for private sector institutions in the provision of regional aid. The proposal is reviewed by the Ministry of Economics, and assistance takes the form of a loan made by the firm's bank and guaranteed by the government; the private sector lenders assume the responsibility for administering the investment.

Sweden grants low-interest loans and subsidies of up to 30 per cent of investment in the northern part of the country. France has a detailed set of regional development incentives, including regional development grants tiered by region and by the number of jobs created. A more recent program offers

forgivable loans (*prêts participatifs*) for business locating in regions dominated by declining industries. Japan maintains a subsidy system that awards up to 50 per cent of the cost of relocating in one of 3000 designated locations outside the largest metropolitan areas.

The major analysis of Canadian regional policy appears in Part VI of this Report and need not be anticipated here. It is sufficient in this context for Commissioners to make the point that although resources devoted to overt regional policy do not represent a large part of federal spending in Canada, regional policy as an implicit goal of other policies is extensive, as we have seen earlier in this chapter.

Policies Indicative of the Degree of Openness to the World Economy

Three policy areas are particularly indicative of the degree to which countries are prepared to encourage the openness of their economies to the world economy. They are tariff and non-tariff barriers to trade, foreign-investment restrictions, and export-promotion measures.

Table 9-3 summarizes international differences in tariff rates. Australia and, to a lesser extent, Canada have above-average tariff rates. Although nominal Japanese tariff rates are below European Community (EC) levels, the effective protection accorded Japanese industry during earlier periods was relatively high by international standards, and it is probably still higher than the nominal tariff rates suggest. Countries also shield their industries behind non-tariff barriers (NTBs). A complaint frequently levelled against Japan is that its trade and distribution system makes virtually impossible the

TABLE 9-3 Average Industrial Tariff Levels

Country	"World" Weights ^c							
	No Trade Weighting ^a Simple Average		Own Country Import Weighting ^b		Imports Weights on BTN Aggregates ^d		Import Weights on Each BTN Commodity ^e	
	1976 Ave.	Final ^f Ave.	1976 Ave.	Final Ave.	1976 Ave.	Final Ave.	1976 Ave.	Final Ave.
Australia								
Dutiable ^g	28.8	28.0	29.1	28.1	27.8	26.7	26.4	25.2
Total ^h	16.9	16.5	15.4	15.1	13.3	12.8	13.0	12.6
New Zealand								
Dutiable	31.4	28.3	28.6	25.5	33.0	30.4	30.2	27.5
Total	24.3	21.9	19.7	17.6	20.5	18.7	18.0	16.3
European Community								
Dutiable	8.8	6.0	9.8	7.2	9.5	7.0	9.6	7.1
Total	8.0	6.5	6.3	4.6	7.0	5.2	6.9	5.1

TABLE 9-3 (cont'd.)

Country	"World" Weights ^c							
	No Trade Weighting ^a Simple Average		Own Country Import Weighting ^b		Imports Weights on BTN Aggregates ^d		Import Weights on Each BTN Commodity ^e	
	1976 Ave.	Final ^f Ave.	1976 Ave.	Final Ave.	1976 Ave.	Final Ave.	1976 Ave.	Final Ave.
United States								
Dutiable	15.6	9.2	8.3	5.7	9.2	5.5	7.6	4.8
Total	14.8	8.8	6.2	4.3	7.1	4.1	5.6	3.5
Japan ⁱ								
Dutiable	8.1	6.2	6.9	4.9	8.0	5.7	7.9	5.5
Total	7.3	5.6	3.2	2.3	6.1	4.4	5.8	4.1
Canada								
Dutiable	13.7	7.8	13.1	8.9	12.0	7.3	12.9	8.3
Total	12.0	6.8	10.1	6.8	8.9	5.5	9.4	6.1
Austria								
Dutiable	14.2	9.8	18.8	14.5	15.9	12.0	17.0	13.3
Total	11.6	8.1	14.5	11.2	10.5	7.9	10.9	8.5
Finland								
Dutiable	17.0	14.6	11.6	9.2	11.2	9.0	11.5	9.1
Total	14.3	12.3	8.2	6.5	6.7	5.3	6.7	5.3
Norway								
Dutiable	11.1	8.2	10.5	8.0	10.2	7.4	10.0	7.5
Total	8.5	6.3	6.4	4.9	5.8	4.3	5.8	4.4
Sweden								
Dutiable	7.8	6.1	7.7	5.9	7.4	5.3	7.1	5.2
Total	6.2	4.9	6.3	4.8	4.6	3.3	4.5	3.3
Switzerland								
Dutiable	3.7	2.7	4.1	3.3	4.2	3.1	4.0	3.1
Total	3.7	2.7	4.0	3.2	3.3	2.4	3.2	2.4

Source: Mancur Olson, *The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities* (New Haven: Yale University Press, 1982), p. 134.

- a. An average of tariff levels on the assumption that all commodities are of equal significance.
- b. The relative weight attributed to each tariff is given by the imports of that commodity in relation to the total imports of the country concerned.
- c. The significance of each tariff determined by world imports of the commodity, or aggregate of commodities, to which the tariff applies. World imports are the imports of the countries listed and the European Community.
- d. BTN = Brussels Tariff Nomenclature. The weight attributed to each tariff is given by the world imports of the BTN class of commodities in which it falls.
- e. Each tariff weighted by world imports of that particular commodity; the maximum attainable disaggregation.
- f. "Final" means after the Tokyo Round of tariff reductions.
- g. Average tariff rates considering only those commodities on which tariffs are levied.
- h. Average tariff levels of duty-free commodities, as well as those to which duties apply.
- i. Some anecdotal evidence, as well as casual impressions of the relatively high costs that Japanese consumers must pay for many imported goods, and the fact that agriculture tariffs are not included beg the question whether these figures may give the impression that the level of protection is lower than it actually is. This is a matter in need of further research.

introduction of foreign goods into its market. Alternatively, a country may establish environmental or safety standards for goods that foreign firms find difficult to meet, or it may impose strict quotas on the value or quantity of imported goods. Thus Canada, like many other countries, sets quotas for imports of textiles, shoes and Japanese automobiles.

Like imports, foreign direct investment can be controlled in a number of different ways. Countries can prohibit or limit the participation of foreign-owned firms in specific areas of activity, such as banking or communications. They can screen direct investments and require investors to make certain undertakings regarding local sourcing, exporting, employment maintenance and technology transfer. Finally, countries can control the type of direct investment that is allowed (such as minority-interest or joint-venture investment) or the terms on which direct investment is permitted (say, by imposing dividend restrictions). Moreover, foreign investors are subject not only to national investment-review mechanisms, but also, to general investment regulations, local government restrictions, and implicit restrictions arising from the public ownership of various sectors such as transportation and utilities.

Until recently, Japan was unique among the industrial nations in the extent to which it excluded foreign investment. Its stringency was particularly apparent in areas that its government had singled out as targets for growth, including telecommunications and computer technology. Restraints on foreign investment included the designation of the percentage of foreign ownership permitted any given firm in each industry and of the approval required for each investment proposal. Approval was provided only after certain criteria were met; these included limitations on the scale of output and provisions for the appointment of Japanese directors in joint ventures.

These restrictions were relaxed, however, in response to intense international pressure; among other measures, some countries imposed limits on Japanese investment in their domestic economies. By 1976, Japan permitted foreign ownership in most industries, but it restricted foreign ownership in mining to 50 per cent and severely limited foreign participation in agriculture, forestry, fisheries and petroleum. Validation is still required for foreign investment, but it is usually automatic. The foreign presence in the Japanese economy is increasing with the relaxation of restrictions.

At the other end of the spectrum are Germany and the United States, the only large industrial nations that have not subjected incoming investment to a formal review process at any time during the post-Second World War period. Both countries do, however, sometimes restrict foreign investment in indirect ways, notably under national security legislation. In response to several large investments undertaken in the mid-1970s by interests in the countries that are members of the Organization of Petroleum Exporting Countries (OPEC), West German authorities have established an informal notification system whereby banks and major companies report large impending foreign acquisitions to the government. In a few instances, the government has quietly encouraged a purchase by German investors to forestall foreign acquisitions. Banks have increased their industrial shareholdings for the same purpose.

Australia's method of screening foreign investment is similar to that followed, until very recently, by Canada. The Australian Foreign Investment Review Board (FIRB) advises the government on the desirability of foreign investment ventures in that country. It also ensures that Australian investors will have a chance to participate with foreign investors in the ownership of natural resources and industries. The FIRB has four main tasks: to inhibit foreign investment in real estate/property, except for immediate residential purposes; to screen all foreign investment in non-bank financial intermediaries and insurance companies where the growth rate of assets is in excess of 15 per cent per annum; to examine all new business proposals where the foreign investment is greater than \$5 million; and to require minimum Australian participation levels in mining ventures within Australia.

France also reviews all foreign direct investment, although investment from other EEC countries requires only prior notification to the Minister of Economics. Investment originating from non-EEC countries requires the authorization of the Minister of Economics, whether the investment is foreign-based or made by French companies under foreign control. Investment is judged by its contribution to output, employment, exports and improved technology. Foreign direct investment will be prohibited if, because of the amount involved, or of other factors, a specific transaction or transfer would have an exceptionally detrimental effect on the interests of France.²

France generally welcomes foreign investment in depressed areas and in growth industries, but resists foreign dominance. In an effort to restrict or reduce the role of wholly foreign-owned firms, the French government has, on occasion, subsidized joint foreign-domestic ventures, such as the computer firm CII Honeywell Bull. Thus France's policy towards foreign investment is highly pragmatic: France imposes restrictions only if such investment raises concerns about national independence.

Foreign investment in Canada and foreign control of sectors of the Canadian economy have long been contentious political issues in this country. Public opinion has shifted several times since the Second World War, and each shift has influenced the broad pattern of our industrial policy. A subsequent section of this chapter outlines in some detail the measures used to control foreign investment in Canada. It is sufficient here to note that during the 1970s and early 1980s, the federal government intensified its efforts to "Canadianize" sectors of the economy. While some observers dispute the efficacy of these initiatives, the degree of foreign ownership and control of the Canadian economy has, in fact, fallen significantly over the past two decades. This fall has been particularly significant in the petroleum sector, but the manufacturing sector, too, has experienced a considerable degree of "Canadianization". More than 50 per cent of all major sectors of the economy is now owned by Canadians. Indeed, in recent years, Canadians have been net exporters of capital. In part, at least, this shift has been a result of the acquisition by Canadian companies of interests previously owned by foreigners. Nevertheless, reinvestment of internally generated funds by foreign-owned corporations operating in Canada continues to be an important factor in maintaining the latter's presence in Canada.

One partial measure of the restrictions imposed on foreign direct investment by a given country is the prevailing level of foreign investment in that country. It should be noted, however, that the level of foreign investment reflects both the restrictions imposed on would-be foreign investors by the country in question and its overall attractiveness to foreign companies as a site for investment.

In 1978, as Table 9-4 shows, Canada absorbed 17.7 per cent of all foreign direct investment in the developed market economies. Some 16.7 per cent was in the United States, 13 per cent in Britain, and 12 per cent in West Germany. Canada's ratio of foreign direct investment inflows to capital formation was above average until 1974 and, as Table 9-5 demonstrates, has been about average since then. By contrast, the stock of foreign-owned assets in Sweden is relatively small, and foreign direct investment provides only a small part of Swedish capital formation. Foreign investment appears to have become relatively more important in recent years as a source of new capital in France.

The government of virtually every industrial country is heavily involved in export promotion. All governments provide industry with the services of trade officers and commercial intelligence gathering. All engage in export financing at concessionary rates. Some countries have gone much further, by such means as treating export income more favourably than other income, for tax purposes.

The proponents of certain new theories of trade maintain that export promotion need not involve the ongoing subsidization of export activity. Domestic procurement policies may provide a local firm with the volume of production it needs to move further up the learning curve than would-be competitors abroad and perhaps, in this way, securing a long-term cost advantage over them. Current export success may correlate less with current export-promotion activities than with past subsidy or domestic market-restructuring policies.

The instruments used by the U.S. federal government to promote exports include the Export-Import Bank, the Overseas Private Investment Corporation, and a provision allowing U.S. exporters to establish Foreign Sales Corporations (FSCs) as a means of securing favourable tax treatment on export earnings. Most U.S. export-assistance programs provide subsidized loans, loan guarantees, insurance and tax reductions, rather than direct subsidies. According to some assessments, the programs have had a minimal effect on the improvement of the long-term competitiveness of U.S. industry. They have made U.S. exports marginally more attractive than they would otherwise be and have helped U.S. manufacturers to conduct business abroad. However, the programs have not been integrated into a coherent export strategy, nor have they been carefully targeted to assist businesses for which such funding would be critical.

The Export-Import Bank was established in 1934 to help foreign buyers purchase U.S. exports. The Bank has recently focused its efforts on facilitating aircraft sales; in the past, agricultural products, communications equipment, electric power plants, and mining and manufacturing equipment have received assistance. The Overseas Private Investment Corporation

Region or country	Stock of Direct Investment Abroad				Stock of Inward Direct Investment							
	1967	1973	1978	1967	1973	1978	1967	1973	1978			
	\$ Billion	Percentage	\$ Billion	Percentage	\$ Billion	Percentage	\$ Billion	Percentage	\$ Billion	Percentage		
North America	60.3	53.7	109.1	52.7	181.7	48.9	29.1	40.4	53.5	38.1	84.0	34.4
Canada	3.7	3.3	7.8	3.8	13.6	3.7	19.2	26.6	32.9	23.4	43.2	17.7
United States	56.6	50.4	101.3	48.9	168.1	45.2	9.9	13.7	20.6	14.7	40.8	16.7
Western Europe ^b	48.2	42.9	84.8	41.0	158.1	42.5	28.7	39.8	66.1	47.1	133.8	54.9
Belgium and Luxembourg	1.3	1.1	2.2	1.1	4.7	1.3	1.4	1.9	3.8	2.7	9.6	3.9
France	6.0	5.3	8.8	4.3	14.9	4.0	3.0	4.2	5.8	4.1	14.9	6.1
Germany, Federal												
Republic of Italy	3.0	2.6	11.9	5.8	31.8	8.5	3.6	5.0	13.1	9.3	29.2	12.0
Italy	2.1	1.9	3.2	1.5	3.3	0.9	2.6	3.6	6.8	4.8	10.1	4.2
Netherlands	11.0	9.8	15.4	7.4	23.7	6.4	4.9	6.8	7.5	5.4	12.8	5.3
Sweden	1.7	1.5	3.0	1.4	6.0	1.6	0.5	0.7	1.0	0.7	1.3	0.5
Switzerland	3.7	3.3	10.2	4.9	27.8	7.5	0.4	0.5	2.2	1.6	7.7	3.2
United Kingdom	17.5	15.6	26.9	13.0	41.1	11.0	8.2	11.4	17.4	12.4	32.5	13.3
Japan	1.5	1.3	10.3	5.0	26.8	7.2	0.6	0.8	1.2	0.8	2.2	0.9
Southern hemisphere ^c												
Australia	2.4	2.1	2.7	1.3	5.2	1.4	13.7	19.0	19.7	14.0	23.9	9.8
South Africa	0.4	0.4	0.5	0.2	1.1	0.3	5.4	7.5	10.2	5.2	10.9	4.4
Total	112.4	100.0	207.0	100.0	371.8	100.0	72.1	100.0	140.5	100.0	243.9	100.0

Source: United Nations Centre on Transnational Corporations, *Salient Features and Trends in Foreign Direct Investment* (New York: United Nations, 1983), p. 34.

a. The estimated stock figures for the Federal Republic of Germany, Italy, Norway, Portugal (until 1975), Spain and the United Kingdom excluded reinvested earnings.

b. Stock estimates for Austria, Denmark, Finland, Norway, Portugal and Spain are included in the estimated stock for Western Europe.

c. Stock estimates for New Zealand are included in the estimated stock for the southern hemisphere.

**TABLE 9.5 Flow of Direct Investment into Developed Market Economies
as a Percentage of Gross Fixed Capital Formation, 1960-1979**

Region or Country	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
North America	1.0	0.9	0.8	0.4	0.5	0.7	0.8	0.9	30.8	1.0	1.2	0.6	0.7	1.3	1.9	1.1	1.3	1.0	2.1	2.3
Canada	7.9	6.7	5.7	2.9	2.4	4.1	5.1	4.4	3.8	4.2	5.0	4.5	2.7	2.7	2.1	1.7	-0.7	0.9	2.1	2.9
United States	0.4	0.3	0.4	0.2	0.3	0.3	0.3	0.5	0.5	0.8	0.9	0.2	0.4	1.2	1.9	1.0	1.6	1.0	2.1	1.9
Western Europe	1.1	2.0	1.8	1.9	2.0	2.2	2.2	2.2	1.9	2.1	2.3	2.4	2.4	2.6	2.9	1.9	1.4	2.0	2.3	1.7
Belgium and Luxembourg	—	—	—	—	—	3.6	1.8	5.0	5.5	5.5	5.3	6.8	5.0	7.0	8.5	6.3	5.2	7.2	6.7	4.4
France	—	1.3	1.6	1.2	1.1	1.0	1.0	1.2	0.7	1.0	1.9	1.4	1.4	1.8	2.3	1.6	1.0	1.9	2.9	2.1
Germany, Federal Republic of	1.2	1.6	1.6	2.1	2.6	3.1	3.3	2.9	1.8	1.5	1.3	2.0	2.8	2.4	3.1	1.4	1.7	1.3	1.2	0.6
Italy	—	2.0	3.2	2.6	4.1	2.4	2.5	1.8	2.0	2.2	2.8	2.3	2.5	2.0	1.6	1.6	0.3	2.7	1.0	0.6
Netherlands	1.6	2.0	3.8	3.1	3.8	3.3	3.0	4.3	4.9	6.0	6.6	6.2	5.5	6.1	6.3	5.6	1.9	1.5	1.3	2.5
Sweden	0.7	0.4	1.4	2.1	0.8	1.6	2.4	1.6	1.6	2.3	1.5	1.1	0.8	0.6	0.7	0.5	—	0.3	0.2	0.2
United Kingdom	3.2	5.0	2.7	3.2	3.2	3.3	3.0	2.3	3.4	3.7	3.8	4.2	3.5	5.1	5.0	2.6	3.0	3.6	4.2	3.8
Japan	0.1	0.3	0.2	0.4	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.3	0.2	—	0.1	0.1	0.1	—	—	—
Southern hemisphere	9.1	8.2	7.7	9.3	9.2	9.9	7.5	7.4	8.6	7.4	9.7	10.7	8.9	0.8	7.0	2.1	4.6	5.2	5.8	4.8
Australia	9.1	8.2	7.7	9.3	9.2	9.9	7.5	7.4	8.6	7.4	9.7	10.7	8.9	0.8	7.0	2.1	4.6	5.2	6.6	5.4
Total	1.2	1.4	1.3	1.2	1.3	1.4	1.4	1.4	1.3	1.4	1.7	1.5	1.5	1.6	2.1	1.3	1.2	1.3	1.7	1.6

Source: United Nations Centre on Transnational Corporations, *Salient Features and Trends in Foreign Direct Investment* (New York: United Nations, 1983), p. 44.

(OPIC), established in 1969, seeks to expand direct U.S. investment in developing countries. OPIC encourages capital exports by insuring U.S. investors against political risks such as expropriation in foreign countries. Under the provisions of the Internal Revenue Code relating to Foreign Sales Corporations, certain categories of domestic corporations selling products in foreign markets are to be treated for tax purposes as foreign corporations. The effect is to allow deferral of federal income tax on the corporation's current income.

Australia's Export Finance and Insurance Corporation provides insurance on credit extended by exporters, guarantees loans made for exports, and makes export loans itself. To develop export markets, Australia also makes direct grants to exporters.

Japan makes use of both direct and indirect methods of export promotion. Between the end of the Second World War and the early 1970s, the Japanese government stimulated exports, restricted manufactured imports, and facilitated large-scale imports of raw material. Tax incentives and accelerated depreciation effectively shielded significant portions of export revenue from taxation. The Japan Development Bank and Japan's Export-Import Bank provided long-term credit for export-related investment at reduced rates. High duties and quotas blocked imported manufactured goods where Japan perceived itself as uncompetitive.

Since the early 1970s, international pressure has induced Japanese policy makers gradually to liberalize trade and open their country's economy. Broad export incentives have been curtailed; the tax incentives still in place apply only to exports by small businesses and to overseas investment. The principle arm of the Japanese government in promoting trade, the Ministry of International Trade and Industry (MITI), no longer directly assists exports, although certain other government policies and practices continue to support knowledge-intensive industries. Japan's Export-Import Bank aggressively finances and insures exports of factory systems, a rapidly growing part of trade.

Many observers argue that the basis of current Japanese export-promotion strategy is initial protection of the domestic market for a chosen range of products. The products selected for support are those that have high-income elasticities of demand: that is to say, demand for these products grows significantly faster than the income of potential purchasers. In addition, the products—which may be based on technology imported from other industrial countries—tend to be of a kind that can be turned out with increasing efficiency and, hence, lower cost, as a result of lessons learned from practical production experience. The government provides producers with sufficient protection to enable them to develop large-scale production for the domestic market. By the time the producers move into the export market, they have acquired the experience necessary to give them an advantage over would-be competitors.

France provides both direct and indirect export assistance, although it has not been as successful as Japan with the indirect approach. From 1975 to 1977, the French government directly financed overseas trade (through long-term credits and general interest subsidies) in the amount of some ten billion

francs, almost 2 per cent of the value of its total exports in 1977. It also channels subsidized export finance through the banking system (mainly through the *Crédit national*) and credit agencies such as the *Compagnie française d'assurance pour le commerce extérieur* (COFACE). Government assistance extended through COFACE may cover up to 70 per cent of the cost of additional productive capacity for enterprises that undertake to increase foreign sales by a specified amount. A similar role is assigned to the *Banque française du commerce extérieur*. The French government also provides "mixed credits", a combination of commercial credits and development aid for developing nations. Finally, France pursues a policy of exporting complete plants to developing countries. In 1977, sales of these plants, totalling 26 billion francs, amounted to one-third of French capital-goods exports. The plants are usually sold on favourable terms, and their sales may lead to re-exports in sectors such as steel.

Given these developments elsewhere and the importance of international markets, Canada has been obliged to expand its own policies for export promotion. Instruments used to promote and develop export markets include the services of trade commissioners, the international marketing and trade-relations divisions of the Department of External Affairs, the industry-sector branches of the Department of Regional Industrial Expansion (DRIE), and various market-intelligence, promotional and aid-related programs. Both the Canadian Commercial Corporation (CCC) and the Export Development Corporation (EDC) play vital roles in facilitating export transactions. The CCC acts as the principal mechanism for government-to-government sales from Canada, while the EDC acts as the principal mechanism for insuring the export sales of Canadian firms against non-payment by foreign buyers. The EDC also facilitates medium- to long-term export financing for foreign buyers of Canadian capital goods and services. This financing includes *crédit mixte*: export financing which mixes highly concessional financing with conventional export financing to produce very low, blended, interest rates. Canada uses this device to counter *crédit mixte* terms offered by competitors.

Policies Relating to Technological Progress

Governments can support technological progress and innovation directly, through research and development (R&D) grants, contracts and tax incentives, or indirectly, by facilitating the acquisition of technology. These kinds of support are connected with basic policies to assist education, especially to produce qualified scientists and engineers.

Chapter 8 compared Canadian research and development (R&D) expenditures with those of a number of other nations. The data indicated that while total Canadian outlays as a proportion of national output have generally been below those of the other major members of the Organisation for Economic Co-operation and Development (OECD), the disparity appeared to be smaller when R&D expenditures on defence and space were deleted. Table 9-6 indicates the proportion of research and development financed directly by government. Again, Canada's rank is relatively low, while the

United States, the United Kingdom, Norway, and Portugal all provide relatively high levels of direct support.

The Japanese support level for R&D shown in Table 9-6 seems to be fairly low. One reason may be that research support is often conveyed in the form of low-interest, partially forgivable loans. An example is provided by the Very Large Scale Integrated Chip project completed by five Japanese electronic companies in 1979. The project cost \$308 million, of which \$132 million was a government loan repayable out of profits over a five-year period beginning in 1983. Often, according to one observer, the five-year period is used for product development, and repayment is usually a small fraction of the loan.³

Sweden, the United States, Japan, and Singapore currently provide significant R&D tax incentives. Canada has offered an R&D tax incentive of one kind or another since 1962.

An assessment of overall support levels is exceedingly difficult to make because its validity depends on the subsidy element in R&D contracts, the tax treatment of subsidy income, the definition of R&D for tax purposes, and the opportunities for transferring unused tax savings (credits) either to other tax years or to other taxpayers. In general, industry observers conclude that overall support levels, broadly defined, are relatively high in West Germany, Japan and the United States. In testimony before the Senate Committee on National Finance, Bernard Ness, the president of Canada Wire and Cable, stated that:

Combined tax and non-tax support covers only 19 per cent of industrial R&D expenses in Canada, compared to 38 per cent in the United States and on a scale between 25 and 34 per cent in Germany, France and the United Kingdom.⁴

Recent Canadian commentaries have noted that the direction of R&D efforts is as important as the amount spent.⁵ There are, however, wide variations in the way in which research and development are directed in different countries. In the United States, which provides little in the way of direct grants, government R&D contracts are driven largely by defence and space requirements, and are generally awarded to individual firms. In France, most R&D assistance is targeted to strategic sectors considered worthy of support by the government. Another program provides forgivable loans to firms with fewer than 200 employees to enable them to introduce new products or processes. The West German government allocates R&D support with the help of an advisory committee from industry and labour. Selection criteria are oriented less to particular sectors than to the relative extent of expenditure and risk that a given project involves. The greater the risk and the R&D cost relative to the applicant's resources, the more likely is approval. Finally, Japanese R&D support in the form of grants and forgivable loans is channelled both to individual firms and to research associations made up of three or more co-operating firms and approved by the Agency for Industrial Science and Technology. R&D priorities are set on the basis of agreement reached between interested firms and the government.

In Canada, the National Research Council (NRC) provides substantial support to industrial development in many forms. Approximately half of its

TABLE 9-6 Resources Devoted to R&D Since 1980 (NSE + SSH)

	United States			Japan		Germany			France		United Kingdom
	1981	1982	1983	1981/82	1982/83	1981	1982 ^b	1983 ^b	1981	1982	1981/82 ^c
GERD											
Million national currency	73 724	82 017	89 522	5 982 356	6 528 700	38 351	41 300	43 000	62 471	73 000	6 205
Million United States dollars PPP	73 724	82 017	89 522	27 104	30 961	15 488	17 353	—	10 827	11 987	11 304
Annual average percentage increase (1975 price)	5.2	4.4	4.7	11.1	7.2	2.8	2.8	1.1	7.0	3.9	2.1
Percentage of GDP	2.52	2.7	2.73	2.38	2.47	2.49	2.58	2.58	2.01	2.06	2.42
Sector of performance (percentage)											
Business enterprise	70.3	72.0	72.1	60.7	—	68.3	69.7	69.7	58.9	59.4	62.9
Government	12.1	11.6	12.0	11.1	—	14.3	13.8	13.9	23.6	—	—
Higher education	14.4	13.4	13.0	24.2	—	16.3	16.0	15.9	16.4	—	—
Private non-profit	3.2	3.0	2.9	4.1	—	0.5	0.5	0.5	1.1	—	—
GERD	100	100	100	100	—	100	100	100	100	100	100
Source of funds (percentage)											
Business enterprise	48.8	49.4	48.5	62.3	—	57	56.9	58.1	40.8	42.2	41.1
Public	49.2	48.7	48.6	26.9	—	41.6	42.1	41.0	37.5	—	49.8
Government direct	46.6	46.2	46.1	15.7	—	—	—	—	—	—	—
General university funds	2.6	2.5	2.5	11.2	—	—	—	—	—	—	—
Other national sources	2.0	1.9	1.9	10.7	—	0.4	—	—	16.5	—	—
Abroad	0	0	0	0.1	—	0.9	1.0	0.9	5.1	—	9.1
GERD	100	100	100	100	—	100	100	100	100	100	100
Total R&D Personnel											
Number in FTE	—	—	—	64 977	—	371 548	—	—	249 000	—	—
Average annual percentage increase	—	—	—	3.1	—	1.1	—	—	3.9	—	—
Per thousand of total labour force	—	—	—	11.4	—	13.6	—	—	10.7	—	—

Sector of employment (percentage)

Business enterprise	—	—	—	56.1	—	65.3	—	51.3	—
Government	—	—	—	8.3	—	14.4	—	24.8	—
Higher education	—	—	—	3.3	—	19.7	—	22.2	—
Private non-profit	—	—	—	2.6	—	0.7	—	1.8	—
Total R&D Personnel	—	—	—	100	—	100	—	100	—

Total RSE

RSE/University graduates in FTE	691 400	723 000	750 000	392 625	406 042	128 162	—	85 500	—
RSE/University graduates as % of total R&D personnel	—	—	—	60.5	—	34.5	—	34.5	—

RSE by sector of employment

(percentage)									
Business enterprise	72.3	73.4	74.1	49.1	—	60.1	—	41	—
Government	9.5	9.1	8.8	7.4	—	15.2	—	18.4	—
Higher education	14.3	13.8	13.5	41.6	—	23.6	—	38.2	—
Private non-profit	3.9	3.7	3.6	1.9	—	1.1	—	2.3	—
Total RSE	100	100	100	100	—	100	—	100	—

TABLE 9-6 (Cont'd)

	Italy		Canada		Netherlands		Sweden*		Norway		Finland		Portugal		Ireland	
	1981	1982 ^a	1981/82	1982/83	1981	1981	1981	1981	1981	1981	1981	1981	1980	1981	1981	1982
GERD																
Million national currency	4 055 335	5 080 438	4 244	5 117	6 643	12 740	4 214	2 483	4 119	83	98					
Million United States dollars PPP	4 595	5 219	3 423	3 998	2 526	2 227	625	572	126	157	169					
Annual average percentage increase (1975 price)	18.3	6.8	8.7	9.5	-0.9	10.0	1.1	8.1	7.6	5.9	0.9					
Percentage of GDP	1.01	1.08	1.22	1.39	1.88	2.23	1.28	1.17	0.33	0.79	0.79					
Sector of performance (percentage)																
Business enterprise	56.4	56.8	47.2	50.3	53.3	66.6	52.1	57.1	28.6	43.6	43.6					
Government	25.7	26.7	25.2	24.6	20.8	6.4	18.4	25.8	47.3	39.3	39.3					
Higher education	17.9	16.5	26.8	24.4	23.2	26.8	29	16.5	19.9	16	16					
Private non-profit	—	—	0.7	0.7	2.8	0.3	0.5	0.6	4.2	1.1	1.1					
GERD	100	100	100	100	100	100	100	100	100	100	100					
Source of funds (percentage)																
Business enterprise	50.1	48.7	39.3	41.8	46.3	57.3	40.1	54.2	26.6	37.7	37.7					
Public	47.2	49.2	41.4	40.1	47.2	39.9	57.2	43.6	66.8	56.5	56.5					
Government direct	—	—	—	—	26.1	21.4	34.4	31.2	—	45.6	45.6					
General university funds	—	—	—	—	21.1	18.5	22.8	12.3	—	10.8	10.8					
Other national sources	0	0	15.8	14.5	1.3	1.3	1.4	1.2	4.7	1.1	1.1					
Abroad	2.7	2	3.4	3.6	5.2	1.5	1.4	1	1.9	4.8	4.8					
GERD	100	100	100	100	100	100	100	100	100	100	100					
Total R & D Personnel																
Number in FTE	102 836	—	65 712	—	54 470	43 114	14 843	17 650	7 711	5 474	5 449					
Average annual percentage increase	7.3	—	7.7	—	1.7	8.8	-1.1	5.1	8.6	-5.7	-0.5					
Per thousand of total labour force	4.5	—	5.5	—	10.1	10	7.5	7.3	1.8	4.3	4.2					

Sector of employment (percentage)

Business enterprise	49	—	46.6	—	49.8	63.4	45	47.4	18.4	26.8	28.4
Government	19.8	—	30.7	—	23.4	7.6	21	29.8	48.1	43.4	40.6
Higher education	31.2	—	21.6	—	24	28.8	33.3	22.1	30.8	28.8	29.5
Private non-profit	—	—	1	—	2.8	0.2	0.8	0.7	2.6	0.9	1.4
Total R&D Personnel	100	—	100	—	100	100	100	100	100	100	100
Total RSE											
RSE/University graduates in FTE	52 060	—	29 670	—	19 436	15 235	7 496	—	2 663	2 636	2 774
RSE/University graduates as % of total R&D personnel	50.6	—	45.2	—	35.7	35.3	50.5	—	34.5	48.2	50.9
RSE by sector of employment (percentage)											
Business enterprise	37.4	—	46.5	—	43.4	52.8	41.1	—	14.1	23	23.6
Government	15.1	—	27.2	—	23.4	10.0	19.2	—	31.4	24.2	24.5
Higher education	47.5	—	25.3	—	31.5	36.8	38.7	—	91.8	51.2	49.9
Private non-profit	—	—	0.9	—	1.7	0.4	1	—	2.7	1.6	2
Total RSE	100	—	100	—	100	100	100	—	100	100	100

Source: Organisation for Economic Co-operation and Development, *Science Resources, Newsletter* (Paris: OECD, 1984), no. 8, pp. 4-5.

Note: GERD = Gross Domestic Expenditure on R&D

PPP = Purchasing Power Parity

FTE = Full-Time Equivalent

RSE = Researchers, Scientists and Engineers

NSE = Natural Sciences & Engineering

SSH = Social Sciences and Humanities.

a. NSE only. Growth rates are slightly overestimated because of increased coverage of HE and BE sectors since 1979.

b. National estimates.

c. Preliminary. Partially OECD estimates.

d. Preliminary.

current \$400 million budget is directly allocated to industry-related programs (broadly defined); another \$100 million provides supporting services and facilities. The NRC undertakes extensive research and development itself and in co-operation with industry. It also provides information about existing technologies (particularly to small and medium-sized companies) through its Technical Inquiry and Field Advisory Service. A number of other federal departments and agencies also provide technical assistance to firms, as do most provincial governments. At both the federal and the provincial levels, technical assistance is primarily directed at small firms.

The Federal Business Development Bank, through its Counselling Assistance to Small Enterprise (CASE) program, provides both counselling and training assistance to managers; in fiscal 1984, more than 13 000 firms benefited from the program. The bank also provides business-management seminars, owner/manager courses, and management clinics; more than 68 000 Canadian business people participated in these activities in 1984.

Japan's technology-acquisition (TA) activities have attracted considerable attention. Japan has promoted the acquisition of new technology from abroad through a variety of means, including the provision of translations of foreign technical literature, the regular dispatch of large missions abroad, international exchanges of academics, industrial co-operation agreements, the licensing of pilot plants, and the approval of foreign direct investment. Its use of such methods enabled it to close many technological gaps between itself and the United States, at a fraction of the cost of the R&D expenditures in the latter country. The Agency of Industrial Science and Technology is responsible both for Japan's technology-acquisition arrangements at the government level and for its national R&D effort. In 1983, it had a budget of \$600 million and supported nearly 4000 researchers in 116 institutions. The Japan External Trade Organization is the government's commercial intelligence service. More than 600 of its employees were stationed in 56 foreign countries in the early 1980s.

At the company level, technological acquisition in Japan involves a thorough scanning of foreign technological information from patent offices, trade conventions and academic journals. Almost 1000 Japanese companies are said to engage in these activities; over 500 have stationed or sent research staff offshore, and almost 400 engage the services of universities and research agencies. The most sophisticated information gatherers are the nine general trading companies that operate globally, trading in virtually everything, including technology. Another source of information scanning is provided by government-supported research institutes, which supply subscribers with a continuous flow of information concerning important developments.

The Korean technology-acquisition effort, remarkable for its speed and size, is based in large part on the Japanese model. Nine general trading companies dominate the private sector's technology-acquisition effort. The Korean Technological Development Corporation is a technology venture-capital company that promotes close associations between foreign sources of high technology and Korean manufacturers. Another organization, the Korean Technology Advancement Corporation, arranges technology imports and joint ventures, and exports the technologies developed by the state-run

contract-research institute, the Korean Institute of Science and Technology. Both the Korean Trade Promotion Corporation, which forms part of the Ministry of Commerce, and the Ministry of Finance maintain technology officers abroad to provide intelligence on new technological developments.

The technology-acquisition effort in Sweden rests on three pillars: the "Big 13" indigenous multi-nationals that sell, operate and acquire technologies abroad; industrial research institutes and associations, particularly in pharmaceuticals, transport equipment, and electrical machinery; and the government. The Board for Technological Development has the responsibility for promoting the technological development of small and medium-sized firms. With a staff of 125 (1981), it follows foreign technology developments, co-operates with foreign governments and companies, and supports collective research on an industry-wide basis. Sweden also makes extensive use of its patent office and technical universities as information sources. In addition, it maintains technological attachés in eight cities abroad.

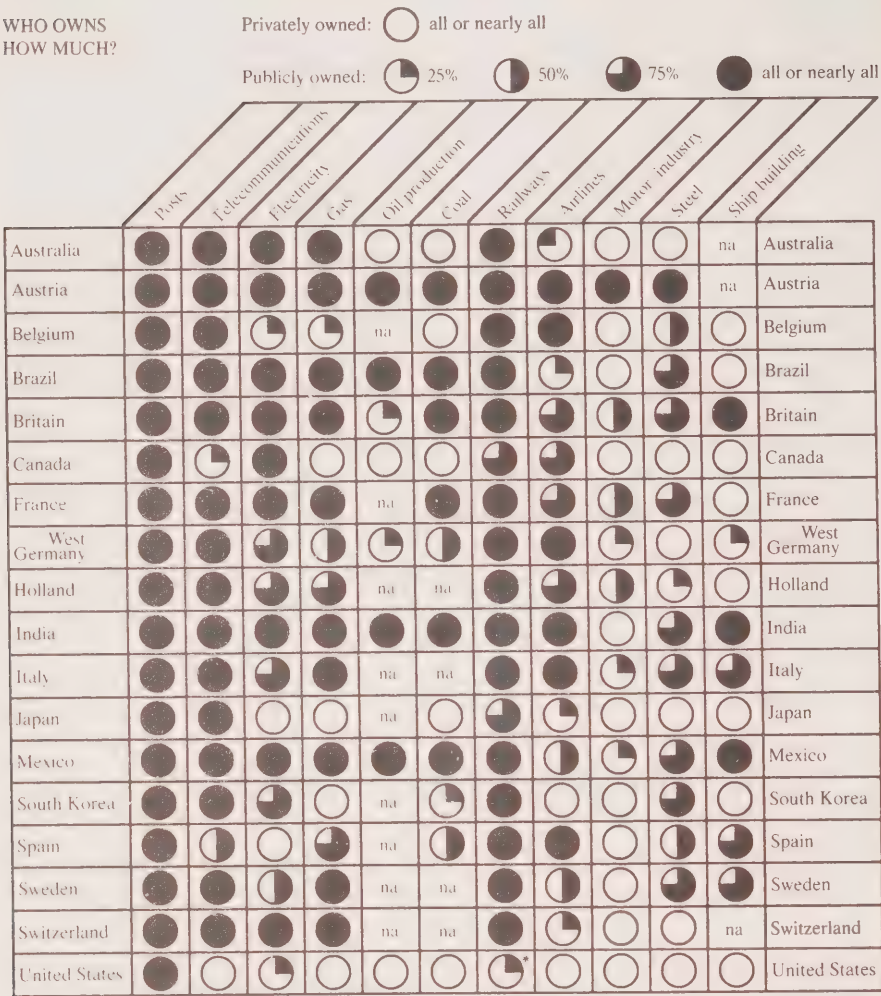
France relies largely on indigenous multi-nationals, foreign multi-nationals and government agencies for its technological acquisition. The *Agence nationale de la valorisation de la recherche* has the mandate to commercialize French inventions both within France and abroad and, more generally, to disseminate innovation throughout the French economy. It has a staff of 200 and works closely with the *Centre national de la recherche scientifique*. France also maintains a long-range technology-assessment capacity in the form of the *Centre d'études des systèmes et des technologies avancées*, which has the responsibility to ensure that the nation develops a capability in emerging technologies.

Direct Government Involvement: Public Enterprise and Government Procurement

Among the more direct vehicles of government involvement in industrial policy are public enterprise and government procurement. As Figure 9-1 shows, the use of public enterprise as a policy instrument varies among countries with market economies. At one extreme is the United States, which has very few public enterprises. At the other extreme is Austria, where nearly all of the utilities, oil refineries, coal mines, railways, steel mills, airlines, and motor-vehicle plants are publicly owned. Japan and Canada have relatively low levels of public enterprise. In Japan, complete or partial public ownership is confined to telecommunications, the railways and the airlines; in Canada, electrical utilities, railways, airlines and the telecommunications industry exhibit substantial degrees of public ownership. In both Britain and Italy, by contrast, the level of public ownership is relatively high. Figure 9-1 shows that telecommunications, railways, electrical utilities, and airlines are in state hands in many countries, and that some less-developed countries (LDCs), such as Mexico, Brazil and India, rely quite heavily on state enterprise.

It is worth observing that until recently, public ownership was an explicit component of industrial strategy in Britain, where it was used to sustain declining sectors, such as shipbuilding and coal mining, and to bail out companies in difficulty, such as the automobile and steel industries. The

FIGURE 9-1 The Extent of Public Enterprise in Eighteen Countries



Source: Cited in J.R.S. Prichard (ed.), *Crown Corporations in Canada* (Toronto: Butterworth 1983), p.106.

na - not applicable or negligible production.

* including Conrail.

present Conservative government has embarked on a course of selling off certain of its interests in state enterprises. France has used nationalization to bail out its steel industry and to create a “national champion”. Sweden has employed public enterprise to bail out its shipbuilding industry.

In Canada, both the federal and the provincial governments use Crown corporations as instruments of industrial policy. In 1981, Crown corporations had revenues of \$40 billion, an amount equal to 13 per cent of Canada’s gross national product. Total assets of Crown corporations in the same year

amounted to \$140 billion, that is, to 11 per cent of total corporate assets. In 1983, Crown corporations accounted for 20 per cent of total investment in Canada and for about 3 per cent of total employment. That they represent a significant element in the economy is readily apparent from these statistics.

Provincial Crown corporations figure more prominently than their federal counterparts, accounting for more than 50 per cent of total public enterprise sales and employment, and about 70 per cent of assets and investment. The most important provincial enterprises are the Crown-owned electrical utilities. Power utilities account for more than 60 per cent of the assets of provincial Crown corporations and more than 40 per cent of the assets of all Crown corporations. Public enterprise has been growing in importance, particularly at the provincial level. The emergence of enterprises owned jointly by government and private interests, such as the Canada Development Corporation, has added to government involvement in investment and asset holding. In 1981, government equity investments in mixed enterprises amounted to about 7.5 per cent of total equity capital in Canada; an estimated 5 per cent of all assets of non-financial corporations were held by mixed enterprises.

Both levels of government have used public enterprises in order to fulfil basic infrastructure requirements. Thus some 50 per cent of the federal government's public enterprises, in terms of assets and revenues, are concentrated in the transportation sector. There is relatively little Crown-corporation activity in the manufacturing sector, although government participation in this sector has been increasing in recent years. Crown corporations such as the Federal Business Development Branch and the Export Development Corporation serve to assist all sectors in business development and marketing.

Government procurement policy can be a powerful tool of industrial policy. Through procurement, governments can guarantee a cash flow to the innovator, provide a demonstration of the innovation in action, and assist private companies by assuming some of the risk associated with innovation. A number of studies have pointed to "procurement pull" as a useful alternative to "subsidy push" in encouraging innovation.

Some analysts have cited government procurement as the principal and, historically, the most effective instrument of U.S. industrial policy. Important—indeed, critical—commercial developments in aircraft, aircraft engines, semi-conductors, and computers have flowed from defence and space procurement. In one view:

Government purchases have been used to subsidize and shape the development of emerging products and markets by providing the stimulus of large demand in early stages of products. The impact has been pronounced in the electronics and aerospace sectors. Government purchases in 1977 accounted for 56 percent of total aircraft shipments, and 57 percent of radio and television communications equipment.⁶

As a rule, procurement practices implicitly or explicitly favour domestic suppliers. The three levels of government in Canada purchase an estimated \$40 billion-worth of final goods and services annually, excluding the wages of

government employees, but including capital formation: the federal government accounts for about \$16 billion-worth of the total amount. All levels of government use their purchases of goods and services to pursue industrial policy objectives, particularly assistance to domestic or local manufacturers. Before the introduction of the recent Agreement on Government Procurement within the General Agreement on Tariffs and Trade (GATT), the federal Department of Supply and Services routinely gave priority to Canadian-based manufacturers. If there were three or more Canadian vendors, they were used exclusively, and the item required was not put to international tender. Even when bids were put to international tender, Canadian bids were given a 10 per cent preference rating. On the whole, only about 20 per cent of total federal procurement was open to foreign suppliers. The incremental cost to the federal government of favouring Canadian suppliers over foreign suppliers has been estimated at an annual cost of \$250 million, which is substantially less than the cost of federal direct subsidies or tax incentives to industry.

How the GATT Agreement on Government Procurement will affect federal procurement policy is still uncertain. The agreement excludes defence procurement and certain purchases by Crown corporations. Preliminary estimates indicate that the GATT stipulations will open a further 10 per cent of federal procurement to foreign suppliers. The agreement does not apply to provincial or local governments.

The available information on provincial procurement policy is quite fragmentary. While all provinces extend some degree of preference to local suppliers, only Newfoundland, Nova Scotia and British Columbia grant outright preference under all circumstances. It is not clear to what extent provincial government policies extend to Crown corporations and to provincially funded institutions such as hospitals. Ontario's procurement policies are perhaps the most subtle: for example, its Crown corporation, the Urban Transportation Development Corporation (UTDC) effectively dominates the available markets in Ontario, thanks, in part, to provincial government pressure on municipalities. Quebec's policy is perhaps the most comprehensive: it grants a general price preference to Quebec suppliers and, in certain circumstances, restricts bidding to those suppliers. In general, provincial procurement policies parallel those of the federal government.

Institutional-Regulatory Framework Policies: Competition Policy and Banking Policy

Two types of industrial policy are essentially institutional and regulatory: competition policy and banking policy.

While most observers agree that competition is essential to the proper functioning of a market economy, there is less agreement about the relationship between industrial structure and competition. Some analysts believe that in countries with small domestic markets, such as Canada, the extent of industrial concentration should not be a matter of concern, since only large firms can achieve the economies of scale and muster the financial resources necessary for effective competition with giant foreign companies.

Other analysts argue that a lack of competition from domestic sources, in industries not subject to foreign competition, could very well add to the costs and reduce the competitiveness of industries that are confronted by foreign competition at home or abroad.

There are two basic policy approaches to competition: that of "managed" competition, as practised in Japan and most European countries, and that of "maximum" competition, as practised – at least until recently – in the United States. One observer makes the following distinction between the two approaches:

Less obvious perhaps, is the notion of "managed competition" as compared to maximum competition. With the former, a company might be encouraged to give up marginal products or product lines to better concentrate on what it does best while other domestic firms in the same industry were also encouraged to make similar concessions. The result would be a narrower line for all firms, permitting a higher level of resource commitment behind each remaining product-market.

"Managed competition" requires government to play a role in mediating decisions about who would give up what, and it or an industry association would monitor compliance ... The continued industrial restructuring in Japan is a case in which government policies combine with corporate strategy to ensure rapid adjustment for targeted industries. It contrasts sharply with American practice which assumes that the maximum degree of competition is best, even if that means five gas stations on a corner instead of four, with decisions to withdraw left to the competitors to be made in isolation.⁷

The Japanese approach to cartels and mergers has been summed up in this way:

In 1953, Japan followed the German lead and amended [its legislation] to permit depression cartels, rationalization cartels and export cartels. Japan was less concerned with a restrictive definition of mergers and a focus on the domestic market structure than with international competitiveness and the exploitation of scale economies. Despite recent tightening of legislation, this attitude persists.⁸

The American approach is fundamentally different. According to one observer, anti-monopoly law "lies at the heart of the American socio-political philosophy 'which believes in the decentralisation of power and ... the economic freedom and opportunity for new men, new ideas and new organisations to spearhead the forces of progress'."⁹

Canada's competition policy is largely embodied in the Combines Investigation Act, which is administered by the Bureau of Competition Policy of the Department of Consumer and Corporate Affairs. The Bureau investigates such prohibited practices as corporate mergers and monopolies that operate, or are likely to operate, to the "detriment" of the "interest of the public", conspiracies to restrain competition, and other activities that work against competition. The Bureau also monitors resale-price practices, trade discrimination and misleading advertising. Another agency, the

Restrictive Trade Practices Commission, has power to inquire into, and order the discontinuation of, certain potentially anti-competitive trade practices.

In a 1969 report, the Economic Council of Canada stressed the limitations of Canadian competition policy and law.¹⁰ Over the last four decades, the Crown has successfully prosecuted only one monopoly case; no merger cases have been successfully prosecuted. Recent decisions of the Supreme Court of Canada have reputedly made it more difficult to secure indictments involving conspiracies to restrict competition by a variety of means. During the past 15 years, the federal government has made several unsuccessful attempts to revise and strengthen the Combines Investigations Act. A subsequent section of this chapter outlines this Commission's views on the direction that Canadian competition policy ought to take in the future.

In some countries, the banking system plays an important role in industrial policy. One analyst distinguishes between countries (Japan, West Germany and France) in which the banking system holds considerable equity in industrial corporations and countries (the United States, Britain and Canada) in which the banking system holds little or no industrial equity.¹¹

Japanese industry is financed primarily by bank loans; only 20 per cent of total investment is held in equity or common shares. Large firms are organized into banking groups in association with one or another of the 13 largest commercial banks. Each banking group has a trading company that acts as a go-between, importing goods and services for sale in Japan and exporting the group's products. Credit is extended with relative ease to the banking group's affiliates. The bank can help nurse a troubled firm back to health by assuming management of the debtor's finances and imposing compromises on other creditors within the group. Ties between the bank and its corporate customers are increased by the bank's ability to invest in shares in non-financial companies, by cross-directorship, and by the temporary assignment of bank employees to the businesses of bank customers. The close affiliation between the banks and industrial companies provides a focal point around which the capital market can design reorganization plans. It is also reputed to serve as a means of reducing the cost of capital to industrial firms. One observer estimates that in recent years, the cost of capital to the Japanese electronics industry has averaged some 4 percentage points less than the cost of capital to that industry in the United States.¹²

West German banks play a major role in industrial investment. Government assistance to industry generally requires bank approval, and the banks themselves usually participate financially in subsidized projects. The interdependence between the banks and industry is enhanced by the presence of bank representatives on the boards of corporations and by extensive bank ownership of company shares. Moreover, almost 85 per cent of the shareholders in Germany deposit their shares with the "big three" banks, Deutsche, Dresdner, and Commerzbank, under trust agreements that assign their proxies to the banks. In 1980, the banks controlled 70 per cent of the shares of the 425 largest firms in Germany. This voting power gives the banks a strong role in crisis management. The banks also serve as an "early warning system", identifying problems in industry as they develop and taking the initiative to resolve them. The banks' role in the reconstruction of failing

industries or firms is facilitated by the fact that they face less pressure than does the government to protect employment or to satisfy interest groups.

France has a durable tradition of private bank involvement in the initiation and management of business, and the banks frequently serve as intermediaries in industrial reorganization. Private banks are often shareholders in firms, an arrangement that ensures their interest in helping these companies through times of crisis. For its part, the French government involves itself in both crisis management and business funding generally, through its own financial institutions, which account for 80 per cent of the funding of French industry. Specialized intermediaries under the *Direction du Trésor* (the Treasury), such as the *Crédit national*, the Economic and Social Development Fund, and the French Bank for Foreign Trade, have become the major actors in organizing the funds of new firms. The *Direction du Trésor* is also the agency responsible for implementing government financial instruments such as regional development grants.

Canada's Bank Act secures a capital market in which the banks hold little or no industrial equity. Like American and British banks, Canadian banks are not intimately involved in the management of firms to which they have loaned money.

Canadian governments are quite heavily involved in both direct lending and loan guarantees. The Federal Business Development Bank (FBDB), for example, lends to small and medium-sized businesses that are unable to obtain financing from other sources under reasonable terms and conditions. In March 1984, the FBDB's outstanding loans amounted to \$1.7 billion. The federal government also provides loan guarantees through the Small Business Loans Act and the Industrial Regional Development Program. Finally, the Crown-owned Export Development Corporation (EDC) plays a vital role in supporting the export of a number of Canadian products. It provides insurance to Canadian firms against non-payment by foreign buyers, credit guarantees and direct financing. The EDC normally assumes 90 per cent of the commercial and political risks of insolvency or default, blockage of funds, war or rebellion, and cancellation of import licences or export permits. The EDC's total liability on insurance and guarantees outstanding at the end of 1983 amounted to \$2.7 billion, while its loans receivable totalled more than \$6 billion. Provincial governments also provide loans and loan guarantees in order to promote the growth of secondary manufacturing within their borders.

In 1980, the estimated total stock of loans, loan guarantees and loan insurance made available by government to the private sector came close to \$50 billion.¹³ However, 60 per cent of this total applied to the housing sector and 10 per cent to the resource sector. Furthermore, the actual value of the subsidy implicit in a \$100 loan approximates only \$10; that in a guarantee of a \$100 loan approximates only \$1. The federal government accounts for some 80 per cent of total government assistance in the form of loans and loan guarantees. While its assistance is theoretically geared to small firms, in total dollar-volume terms there appears to be a bias in favour of big firms. Loans and loan guarantees are more widely dispersed across industry sectors than are direct subsidies, and the poorer provinces appear to be favoured.

Firm-Specific Policies

Last, but hardly least, in our review of industrial policies are policies directed to specific firms. Firm-specific subsidies are used both to promote successful firms—that is, as part of a strategy of “picking winners”—and, somewhat more often perhaps, to bail out troubled firms or forestall prospective trouble. Two countries, France and Japan, are notable for directing support to specific firms in pursuit of a strategy of trying to pick winners. Two other countries, Britain and Sweden, have made extensive use of firm-specific assistance, primarily in order to prop up hard-pressed companies.

Britain's case illustrates the danger of providing substantial subsidies to firms confronted by the prospect of a continuously bleak future. The support of ailing industries and firms absorbs the lion's share of Britain's industrial assistance budget, creating a serious drag on the economy and severely impeding the adjustment process that must eventually take place in response to changing economic circumstances. While British government assistance to floundering firms appears to have been motivated primarily by employment considerations, it has also been triggered by trade, defence, technological and regional considerations. According to some observers, however, government-led rescues of the motor-vehicle and shipbuilding industries in the late 1970s failed to stem the tide of competing imports into the country; they merely forestalled inevitable plant closures and worker lay-offs.¹⁴

In France, a highly explicit targeting mechanism—the *Comité d'orientation pour le développement des industries stratégiques*—directs support to specific products, firms, and industries. The support devices include R&D contracts, procurement (purchase agreements), export financing and promotion, favoured treatment through the largely government-owned banking system, and subsidization. Some analysts conclude that French firm-specific assistance has been only modestly successful, owing to a choice of targets for prestige rather than economic reasons, an unwillingness to abandon failures, and the use of assistance to forestall adjustment.¹⁵

Japan maintains an explicit system of assistance to smaller businesses faced with trade-, technology- and environment-related adjustment problems or raw material shortages. On presentation of an acceptable adjustment plan, a firm becomes entitled to low-interest loans, guaranteed loans and tax incentives.

Japan assists larger enterprises in a number of ways. Historically, such assistance has involved import protection, but this protection is less rigorous now than it was in the past. Assistance to firms continues to involve procurement preferences, the sanctioning of specialization arrangements and joint research projects, the support (through forgivable loans) of research, and favourable tax treatment of investment. Unlike France, Japan sets its priorities on a collaborative basis: government is the senior, but not necessarily the dominant, partner. There is generally no question of choosing a national champion, as France has attempted to do. When mistakes occur, or when a good choice is undone by events, the Japanese show no hesitation about abandoning or severely curtailing the activity in question. Japan has retreated from ventures in a wide range of industries, including aluminum, petrochemicals, shipbuilding, cement, textiles, coal and steel. Finally, the

choice of investments is governed by “rate-of-return” criteria, rather than by prestige, political pressures or employment considerations. By rate-of-return criteria, we mean that investments are channelled into areas where, because of potential market growth and the protection from new entry afforded by the learning curve, sustained high profits are likely.

Governments in Canada are extensively involved in providing assistance to specific firms in distress. Firms in the aeronautics, shipbuilding and automobile industries have received substantial assistance; 25 shipbuilding companies have been granted almost \$2 billion over the past ten years. Firms in the textile, shoe and furniture industries have also received direct-grant assistance or other forms of financial support, but the main form of assistance to these industries has been the maintenance of tariffs and quotas. While firms in distress have absorbed the lion’s share of government assistance, support has also been given to firms at the forefront of new technology. Three notable successes to date are Spar Aerospace Ltd., CAE Electronics Ltd., and Pratt and Whitney Aircraft. Inevitably, however, some firms that have been supported as potential winners have turned out to be losers.

Overall Policy Orientation and Performance

The range of industrial policy instruments and the combinations in which various countries employ them defy ready summarization. Table 9-7 attempts no more than to indicate, very generally, the degree of emphasis that several countries have given to each of the major types of industrial policy. Certain points that emerge from the table are worth noting. For example, no country other than the United States is classified as having a “strong” competition policy. No country other than Japan has maintained stringent restrictions on foreign investment, and these restrictions Japan is currently relaxing. France, West Germany, Britain and Canada give a higher priority to regional development than do most other countries.

A qualitative assessment of the effects of the various policy choices on national performance points to the following conclusions.

Trade policy. Australia, France and Japan have employed protectionist strategies in the recent past. Australia’s economic record has been rather weak over the past decade or so, while Japan has performed relatively strongly. France’s performance has been mixed: strong initially, but weaker in recent years. Some observers argue that Japan’s trade policies did much to protect infant industries from competition in the domestic market during their development phase and thus prepare them for entry into the international market. Britain, which has generally maintained a free-trade stance, has lost much of both its domestic and its export markets for manufactured goods during the post-Second World War period. West Germany, which has adopted trade policies similar to Britain’s, has performed relatively well.

Foreign investment policy. Until recently, Japan has severely restricted foreign investment while maintaining very high levels of domestic savings and

TABLE 9-7 Mix of Industrial Policy Instruments of Selected Countries

	United States		Britain		Australia		Japan		France		Germany		Sweden		Canada	
	Emphasis Strong	Weak	Emphasis Strong	Weak	Emphasis Strong	Weak	Emphasis Strong	Weak	Emphasis Strong	Weak	Emphasis Strong	Weak	Emphasis Strong	Weak	Emphasis Strong	Weak
Competition policy	x			x		x(?)		x		x		x		x(?)		x
Labour-adjustment policies		x		x		x		x		x		x		x		x
Trade protection	x			x		x				x		x		x		x
Regional development policies	x		x			x		x		x		x		x(?)		x
Government R&D expenditures	x			x		x		x		x		x		x(?)		x
Public ownership	x		x			x(?)		x		x		x		x		x
Firm-specific subsidies	x		x			x		x		x		x		x		x
State influence on credit allocation	x			x		x		x		x		x		x		x
Social security policies	x			x		x		x		x		x		x		x
Foreign investment restrictions	x			x		x		x		x		x		x		x

Source: Marsha Chandler and Michael J. Trebilcock, "Comparative Survey of Industrial Policies in Selected OECD Countries", in *Economics of Industrial Policy and Strategy*, vol. 5, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).

capital investment. Other countries have been much more permissive in accepting foreign investment; some have performed well, some poorly.

Firm-specific policies. Many analysts point to Japan's apparently successful use of selective strategies to promote high-growth firms and industries. France's use of firm- and industry-specific policies has had very mixed results, including major failures in computers, electronics and aircraft manufacturing. West Germany, which has enjoyed a reasonably high rate of growth, has generally avoided selective support to firms or industries; instead, it has concentrated on promoting conditions conducive to market-led adjustment. In Britain, where growth has been low, the government has tended to use selective support to bail out ailing firms or industries, a policy that has often entailed nationalization. In some instances, the bail-outs have been for basic industries such as steel, autos and ship-building; in others, the assistance has gone to high-technology "industries of the future" such as aerospace, for such projects as those undertaken by Rolls-Royce and the development of the Concorde. Canada's use of selective intervention has been similar.

Research and development. The importance to economic growth of expenditures on R&D is hotly debated. The question of the appropriate public policy for a small country such as Canada, which cannot engage in large-scale technology races with larger economies, is even more controversial. The experience of other countries offers little clear guidance toward a resolution of this issue. Japan has one of the lowest levels of reported government expenditures on R&D among the major OECD countries, and it has spent significantly less, in total, on R&D as a proportion of economic output than has Britain. Making use of others' investments in technology through adoption or adaptation of their innovation clearly has some advantages over domestic investment in original research and development. Of course, such a practice would be counter-productive if all countries followed it.

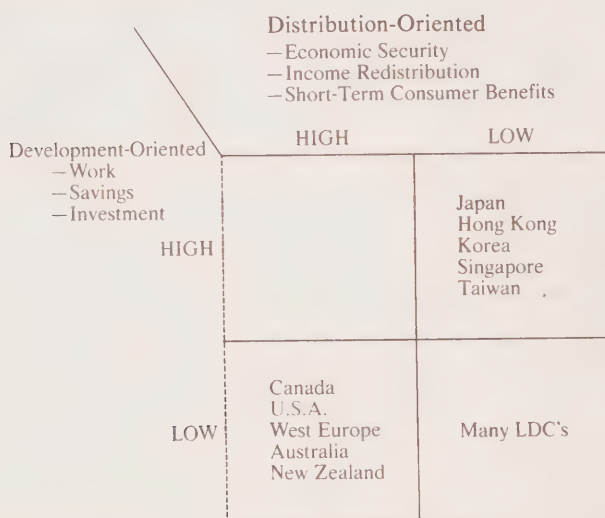
Competition policy. This is another variable that yields ambiguous results. The United States has traditionally maintained a vigorous anti-trust policy in order to foster domestic competition, while most European countries and Japan have a very weak anti-trust tradition. Indeed, the latter countries have adopted policies in many sectors that encourage mergers, consolidations and concentration.

It is evident that the relationships between these industrial policies and economic performance tend to be conflicting and contradictory. Japan's notably successful performance seems to reflect a variety of factors: the combined efforts of industry and government to enable the nation to catch up with more advanced industrial countries; a high level of capital investment and, in all probability, a unique policy-making system that appears to be very much in tune with the national temperament and ideally suited to achieving national aspirations. The utility of all of these factors may be reinforced by Japan's strategy of concentrating substantial resources on the development of

particular industries or sectors which it has singled out as prospective areas of strong growth.

Of course, national strategies alone do not account for the differences in national growth rates. Nor is economic growth the only possible basis for a comparison of national economic policies. One study distinguishes between national strategies that aim primarily at redistributing income and those that encourage work, savings and investment. The study concludes, as Figure 9-2 shows, that the advanced North American and Western European nations tend to be marked by high levels of income redistribution, low rates of savings and investment, and significant disincentives to work, while the reverse is true of countries in the Far East.¹⁶

FIGURE 9-2 Country Strategy



Source: Bruce R. Scott, "National Strategies: Key to International Competition", in *U.S. Competitiveness in the World Economy* (Boston: Harvard Business School Press, 1985), p. 127.

It does not necessarily follow that a high level of income redistribution results in low economic growth. Indeed, some economists have argued that up to a point, income redistribution can help to promote growth by reducing resistance to necessary economic change.¹⁷ A study which relates national economic growth to a country's standing in the industrial hierarchy and to factors such as population growth, income transfers, and the growth of government, concludes that countries with relatively large income transfers tend to grow faster than those with relatively small income transfers.¹⁸ The same study also found a correlation between the age of the political structures of various countries and their rate of economic growth: countries with more mature structures grow more slowly. It is a matter of debate, however, whether much weight should be attached to this conclusion.

Another approach to an international measure of economic performance is to compare not just policy instruments and their effects, but also the links

between political institutions *per se* and, therefore, the inherent structure of political representation. Studies on the political dimensions of general economic development policies, deficits and taxation, and labour-market policies suggest a strong association between the degree of sustained representation of labour in government and the degree of concrete policy commitment to training and job-creation programs. The more highly sustained the representation of labour, either indirectly or through political parties, the greater is the relative commitment to employment and employment-adjustment goals.¹⁹

None of these comparative studies reveals any single policy or any single variable that convincingly explains why some countries succeed in promoting economic development and others do not. Nor does a mix of economic and political factors alone provide an adequate basis of comparison. The list of possible factors is endless, and comparisons between apparently similar practices can be misleading. It is possible, for example, that Japan's commitment to a form of guaranteed employment should be viewed as a unique product of its culture, rather than as a product of its economic or industrial policy.

Whether this review of international industrial policies suggests a need for more (or more intelligent) intervention or for less intervention and a willingness to let market forces guide the economy is a question we shall address later. One thing, however, is clear: if we Canadians are to meet successfully the challenges confronting our industrial sector, future development must be more responsive to international competitive conditions than to internal political pressures to protect the *status quo*. Faced as we are with increasingly strong competition in domestic and international markets, it is in the interest of business, labour and government alike to bolster the ability of Canadian industry to meet and match that competition.

Canada's industrial policy record is mixed. Our overall economic performance since 1945, which has certainly been influenced to some degree by our industrial policies, has been good in some dimensions and poor in others. We have successfully reallocated output and employment among major sectors of the economy in response to changing economic circumstances, paralleling the performance of nations, such as Japan and West Germany, which have been held up as models of adaptability. Within the manufacturing sector, we have reallocated labour in the same direction as the "successful" countries, but not to as great an extent. Furthermore, our employment-growth record has been exceptionally strong. On the other hand, over the past ten years or so, our rate of productivity growth has been low relative to the rates in other industrial market economies. In addition, during the same period, the benefits we derive from our natural resource wealth have continued to wane in importance; the reasons for this decline include slow growth abroad, technological changes that reduced demand for certain commodities, and competition from less-developed countries. This trend, in turn, has placed a greater burden on productive investment in areas where international competition is already tough and is expected to become tougher still.

It has been all too easy to find grounds for criticizing a broad range of government initiatives in the area of industrial policy. The recently amended federal tax provisions that permitted the sale of R&D tax credits by one firm to another proved to be an idea that, however well motivated, was misapplied. Several new ventures which the federal government has backed as potential "winners" have turned out to be "losers", although there have also been some success stories. Efforts to bail out high-profile firms through loans, grants, equity infusions and outright take-overs have produced a few notable successes and some striking failures. Extensive government support, in the form of quotas and subsidies, of faltering industries such as textiles, shoes and shipbuilding has added to the costs of the economy, undermined its international competitiveness in other areas, and impeded the adjustment to changing economic circumstances that is essential if Canada is to maintain a healthy growth of output and incomes.

We Commissioners appreciate the difficulty of the position in which governments find themselves. To allow a company to fail or an industry to wither away without extending a helping hand exposes a government to criticism for ignoring the hardship experienced by the workers in that company or that industry and by the communities in which they live. Yet, as we have just indicated, when governments do extend aid in such circumstances, they become subject to criticism for impeding, often at considerable cost, an adjustment process that ultimately must be undertaken.

A balanced approach is in order, for there is neither an obvious standard of success nor broad consensus on how to achieve it. Indeed, the criteria of success vary from sector to sector. From a national perspective, success does not require the preservation of specific activities or industries, but individuals involved in failing industries may understandably hold a contrary view. What we must acknowledge is that all countries make mistakes in the exercise of industrial policy, for no country has perfected the ideal mix of policy instruments. Resource misallocation is an inevitable consequence of government support programs, just as resource misallocation is an inevitable consequence of private sector decisions. The challenge for Canada is to do at least as well as its major competitors in the exercise of industrial policy.

Notes

1. Much of the material in this section is drawn from Commission research. See Marsha Chandler and Michael J. Trebilcock, "Comparative Survey of Industrial Policies in Selected OECD Countries", in *Economics of Industrial Policy and Strategy*, vol. 5 (Toronto: University of Toronto Press, 1985).
2. Dorothy B. Christelow, "National Policies Toward Foreign Direct Investment", *Federal Reserve Bank of New York Quarterly Review* 4 (Winter 1979-1980), pp. 21-32.
3. William G. Ouchi, *The M-Form Society: How American Teamwork Can Recapture the Competitive Edge* (Reading, Mass: Addison-Wesley, 1984), pp. 116-17.
4. Canada, Senate, Standing Committee on National Finance, *Proceedings*, March 22, 1984, p. 9.

5. See Canada, Ministry of State for Science and Technology, Task Force on Federal Policies and Programs for Technology Development, *Report* (Ottawa: Minister of Supply and Services Canada, 1984) (D. Wright, Chairman); and Canada, Senate, Standing Committee on National Finance (C. William Doody, Chairman).
6. Marsha Chandler and Michael J. Trebilcock, "Comparative Survey of Industrial Policies in Selected OECD Countries", in *Economics of Industrial Policy and Strategy*, vol. 5, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
7. Bruce R. Scott, "National Strategies: Key to International Competition", in *U.S. Competitiveness in the World Economy*, edited by Bruce R. Scott and George C. Lodge (Boston: Harvard Business School Press, 1985), pp. 105–6.
8. Chandler and Trebilcock, "Comparative Survey of Industrial Policies in Selected OECD Countries".
9. Martin Edmonds, "Market Ideology and Corporate Power: The United States", in *Industrial Crisis: A Comparative Study of the State and Industry*, edited by Kenneth Dyson and Stephen Wilks (Oxford: Martin Robertson, 1983), p. 71.
10. Economic Council of Canada, *Interim Report on Competition Policy* (Ottawa: Information Canada, 1969).
11. See John Zysman, *Governments, Markets and Growth: Financial Systems and the Politics of Industrial Change* (Ithaca: Cornell University Press, 1983).
12. Ouchi, *The M-Form Society*.
13. Economic Council of Canada, *Intervention and Efficiency: A Study of Government Credit and Credit Guarantees to the Private Sector* (Ottawa: Minister of Supply and Services Canada, 1982).
14. See Chandler and Trebilcock, "Comparative Survey of Industrial Policies in Selected OECD Countries".
15. See, for example, Scott, "National Strategies".
16. Scott, "National Strategies".
17. See, for example, Reuven Brenner and Léon Courville, "Industrial Strategy: Inferring What It Really Is", in *Economics of Industrial Policy and Strategy*, vol. 5, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
18. John McCallum and André Blais, "Government, Special Interest Groups and Economic Growth", in *Responses to Economic Change*, vol. 27, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
19. See G. Bruce Doern, "The Politics of Economic Policy: An Overview"; David A. Wolfe, "The Politics of the Deficit"; and Leon Muszynski, "The Politics of Labour Market Policy", in *The Politics of Economic Policy*, vol. 40, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).

Reorienting Canada's Industrial Policies

Commissioners believe that a reorientation of Canada's industrial policies is imperative if Canada is to avoid being out-performed by other industrialized nations or by newly industrializing nations (NICs). We define industrial policy broadly: that is, we include all government efforts to promote growth, productivity and the competitiveness of Canadian industries. While industrial policy must draw constantly from Canadian experience and the experience of Canada's major competitors, it must also adapt constantly to changing circumstances at home and abroad. At the same time, it must exhibit a reasonable degree of stability and predictability.

A Market-Oriented Framework For Industrial Policy

In considering the critical issue of industrial policy, we are mindful of the wide range of views expressed by Canadians to this Commission about the proper role for government in formulating and implementing such a policy for Canada. The fundamental questions are these: Should government confine itself to a rather passive role in facilitating industrial growth and development by the private sector? Or should it intervene actively and directly in private investment decisions, in order to encourage the development of companies or industries that it has singled out as potential winners and the phasing out of demonstrated losers? A research paper prepared for this Commission¹ sums up the arguments for and against the latter approach. It cites objections to a targeted industrial policy on the grounds of:

- The alleged difficulty of picking winners over losers
- The inherent discrimination involved in the process of government intervention in the private sector
- The erosion of the vital market function in the allocation of economic resources.

It argues for a targeted industrial policy on the grounds that:

- Governments have a reasonable probability of success in distinguishing between winners and losers.
- Selection must be made in order to fulfil regional employment objectives and obtain entry into specific markets.
- Necessary scale economies require that the development of a new product or process be undertaken by a single firm.

It is probably true that most Canadian economists have doubts about the ability of governments to pick potential winners and to help them gain a comparative advantage on the international stage. If all countries were to pursue this strategy, the benefits to each nation would, on average, simply match the costs of entering the game. Nevertheless, the study cited above concludes that Canadian governments should intervene aggressively to support firms singled out as potential winners; its rationale is that such help is necessary to overcome the impediments to private sector initiatives that result from Canada's regional diversity and the smallness of its domestic market.

Quite apart from the economic cases for and against a targeted industrial policy, the practical problems of implementation are considerable. The adoption of a targeted industrial policy requires government to establish selection criteria that will identify which sectors or firms should be supported, and which should be allowed to disappear or be deliberately phased out. While many attempts have been made to define selection criteria, no convincing formula has emerged. It is clear in retrospect that if some of the criteria suggested in the past by various government departments had been adopted, they would have led to an unreasonable proportion of bad investments. Picking winners is an extremely difficult business, particularly since enterprises that look promising today may be made obsolete by changing conditions tomorrow.

France and Japan are the two countries that have most explicitly and extensively adopted targeted industrial strategies. As we noted earlier, the French experience has been mixed at best; success has been especially elusive in areas, such as electronics, where international competition is intense. France's industrial targeting appears to have been blurred by considerations of prestige and by a desire to protect declining industries.

Japan's experience with targeted industrial strategies has also been mixed. A number of targeted sectors—the microchip industry, for one example—have experienced a high rate of success. Moreover, Japan has shown no reluctance to abandon losing industries, such as aluminum, petrochemicals and shipbuilding. It is by no means clear, however, how much the Japanese success story owes to the targeting of government support *per se*. It now seems evident that Japan's support for the steel industry was misdirected, in view of the changes in economic conditions that were taking place at the time. Where targeting has been successful, it is not evident that the benefits have exceeded the opportunity costs (that is, the costs of forgoing more lucrative investment opportunities) associated with the targeted support. Most observers conclude that Japan's success is the result of many factors, not the least of which is the quality of management of individual firms.

Experience with targeted industrial strategies provides many illustrations of the difficulties of picking “winners” and the inherent administrative complexity of implementing such strategies. A comprehensive study of alternative support strategies in the United States concludes that U.S. support for applied research of general application has been effective, while research directed more narrowly to the proprietary-commercial area has not. The study extends its conclusions to Europe's experience:

The lesson here is a general one . . . There are many other studied cases, most of these European, in which government has tried to identify and support particular products that it was hoped would ultimately prove to be commercial successes. While there are few successes, the batting average has been very low, except when the government in question has been willing to subsidize or require the procurement of the completed product as well as the R&D on it.²

Some observers argue that the difficulty of picking “winners” arises from a lack of responsiveness and flexibility, and that the problem can be remedied by administrative changes. The view of this Commission is that the failures

observed over time are attributable to fundamental problems in the selection system, and that there is no quick administrative solution.

The determination of whether a given activity is a potential winner can also be a very slow business, not because of bureaucratic inefficiency, but because of the nature of the activity itself. The difficulty of targeting industrial policy support for proprietary technologies provides an illustration of this point. Generic technologies, such as those related to producing spring-wheat strains or dryland-cultivation techniques, provide benefits to a readily identifiable group of beneficiaries: for example, farmers who own wheat-growing land. On the other hand, the beneficiaries of the subsidization of a proprietary technology may be as few as one individual: the owner of the firm involved. The choice of generic R&D projects can be guided by sector representatives acting in concert with academics and other researchers. In contrast, it is very difficult to decide which proprietary technology to support on the basis of the agreement of informed, but objective, parties, for the informed parties are not disinterested. Consequently, the decision-making process is almost certain to be ponderous and slow.

In view of the practical difficulties of developing a targeted approach to industrial policy, this Commission does not recommend such an approach for Canada. Rapidly changing international and domestic circumstances demand a highly flexible and adaptive economic system; it is very doubtful whether governments can respond to such situations better than private enterprise can. The fact that many of the components of industrial policy are under provincial or federal-provincial jurisdiction is a further argument against attempting to pursue a closely orchestrated industrial policy.

There can be no argument about the need for closer consultation and co-ordination among governments, business, and labour. Part VI of this Report proposes a number of institutional changes designed to enhance the effectiveness of Canada's economic management. A targeted industrial policy, however, would require a much more intensive involvement of the government bureaucracy in making decisions about private investment than Commissioners are prepared to recommend.

In our judgement, Canada's approach to industrial policy should become more highly market-oriented than it is at present, rather than move toward still more intensive government intervention. Commissioners believe that more reliance should be placed on the ability of basic market forces to determine which industries and companies deserve to prosper. While there are several reasons why a strict hands-off approach is neither feasible nor desirable, governments have, in our view, intervened in the market-place too often and too extensively over the past several years.

Canadian governments should not, of course, close the book on the question of targeted industrial policies. While there is little evidence to suggest that targeted strategies are effective in Canada or elsewhere, we can all be sure that governments around the world will continue to experiment with policies to improve their trade prospects. As the international climate of competition becomes more intense, sometimes as a result of attempts at targeting by other countries, the pressures on Canada to experiment will grow. Such experi-

ments will be high-risk endeavours in a high-risk world. Until we have more confidence in the feasibility and suitability of a targeted approach to industrial policy, and until we have more knowledge of the adjustments likely to arise out of a more open trade environment with the United States, this Commission recommends that Canada place deep reliance on market forces in allocating Canada's human, capital, and natural resources.

In keeping with this emphasis on market mechanisms, Canada should develop a clearly defined framework for an industrial policy that would facilitate both private sector decision making and co-ordination of its decisions with government policies and programs. This framework should identify the objectives of industrial policy, the main factors to be taken into account in devising and implementing industrial policy, and the key initiatives to be undertaken in relation to each of these factors. It is to a consideration of such a framework that we now turn.

Productivity and Competitiveness as Strategic Objectives

In a small, open economy, industrial policy and trade policy are almost synonymous. Both should be anchored in a clearly defined set of objectives or goals. Conventionally, these goals are more or less as follows:

- A high growth rate in average real income
- Stability in real income over time and in all regions
- An opportunity for stable and "meaningful" employment for all citizens
- A reasonably equitable distribution of income.

While we Commissioners endorse this set of objectives, we recognize that it does not provide an operational framework for the implementation of an industrial policy. Thus, we would hope that the four goals outlined above would be furthered by the definition of a common strategic objective that would provide a consistent basis for the policies and programs of the 11 governments across Canada.

What should the common strategic objective be? We believe that it should be related to the fundamental purpose of industrial policy, the collective label given to government efforts to promote the growth, productivity and competitive performance of the Canadian economy. Concern for productivity and competitiveness has been a compelling theme in the hearings and submissions to this Commission, and we are convinced that their significant improvement must be the fundamental objective of our future industrial policy.

The recent resurgence of interest in industrial policy derives, in large part, from the relatively poor performance of the Canadian economy in recent years, particularly its low rate of productivity growth. This poor performance is especially troubling in light of the tough international competition facing Canadian manufacturing firms and some resource sectors, such as forestry and mining. Additional interest in industrial policy stems from deep concern about unemployment which, over the next decade, is expected to fall only slowly from its present high level. While this Commission is of the view that

high current rates of unemployment are largely a cyclical problem and, hence, are best resolved through the traditional tools of demand-management policy, complementary industrial and related adjustment policies could help to accelerate the creation of new jobs.

Fears that Canadians are losing out in international markets are fed by an international trading environment that has become increasingly competitive. These fears are also fostered by a growing resort to non-tariff barriers (NTBs), such as quotas and voluntary restraints on exports. This tendency is particularly dangerous to Canada because it is the only major industrialized country without guaranteed access to a market of 100 million people or more. Another source of concern is the success of the newly industrialized countries in building on their labour-cost advantage in the production of standardized products and, increasingly, of more sophisticated products, to become major competitors in the international market-place.

If Canadian industry is to survive and prosper, it must be able to compete effectively with foreign interests both at home and abroad. This means at least three things. In the first place, Canadian firms must look outward on the rest of the world. They must search out markets wherever they can find them. They must undertake research and development (R&D) in areas where Canada has a special edge, and seek out the technological advances being made abroad that we must adopt or adapt in order to remain competitive. Secondly, government must encourage competitiveness in the Canadian market-place, particularly among firms that are shielded from foreign competition, in order to limit the costs of Canadian companies that are competing with foreign firms at home and abroad. Governments must also avoid hampering the competitiveness of Canadian firms by burdening them with excessive taxes or undue regulatory requirements. Thirdly, both industry and government must recognize the many factors that could alter Canada's competitive position. These factors include changes in the exchange rate, which have consequences for the economy as a whole, and changes that affect the fortunes of particular firms or industries. Changes of either kind impose problems of adjustment for which solutions have to be found.

Commissioners are, of course, concerned about competitiveness, not for its own sake, but because it is essential to the growth and development of the Canadian economy: to the expansion of output, the increase of employment, and the rise of real incomes. The same considerations are the basis of our concern about productivity, that is, the efficiency with which Canada produces goods and services; this has an important bearing on the country's international competitiveness. A recent submission to a forum known as the Berkeley Roundtable on the International Economy described competitiveness this way:

A nation's competitiveness is the degree to which it can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously expanding the real incomes of its citizens. International competitiveness at the national level is based on superior productivity performance and the economy's ability to shift output to high productivity activities, which in turn can generate high levels of real wages.

*Competitiveness is associated with rising living standards, expanding employment opportunities, and the ability of a nation to maintain its international obligations. It is not just a measure of the nation's ability to sell abroad, and to maintain a trade equilibrium. The very poorest countries in the world are often able to do that quite well. Rather, it is the nation's ability to stay ahead technologically and commercially in those commodities and services likely to constitute a larger share of world consumption and value added in the future.*³

In the broadest terms, then, competitiveness is simply effective resource use. An empirical approach to the measurement of competitiveness defined in this broad manner can be found in the European Management Forum's *Report on International Industrial Competitiveness*.⁴ The report ranked Canada seventh of 22 countries in 1984, eleventh in 1983, and sixth in 1982. Areas in which Canada ranked relatively poorly in 1984 were innovative orientation, outward orientation, socio-political consensus and stability, economic dynamism, state interference and industrial efficiency. The last factor is deemed to depend on employee productivity and costs, price stability, investment rates, employee motivation and turnover, and corporate profits and taxation. While one might quarrel with the mixture of opinion and hard data on which these rankings are based, the report does remind us of the variety of influences that may bear on a nation's competitive position.

A narrower, more specific, measure of a nation's competitive position is its relative cost or unit-cost position. While it would be desirable to assess all of the costs related to production, costs related to labour are the easiest to compare internationally. Since labour costs account for such a large share of total production costs, this is not a major limitation. The competitive position of a country is significantly influenced by its relative labour costs. At the same time, it is necessary to bear in mind that what is important is the combined productivity of all the factors of production. A country that deploys its labour and its capital more efficiently than another country may have lower labour costs and yet sustain a higher wage rate. To account for the productivity factor, international cost comparisons are usually made in terms of unit-labour costs, that is, the cost of labour needed to produce a unit of output.

Since international trade is particularly competitive in the field of manufactured goods, and since trade in these goods is of growing importance, comparisons of manufacturing-unit labour costs among countries are especially pertinent. Unfortunately, the available comparisons do not show very consistent results for Canada.

One of the best-known measures of competitiveness in manufacturing is prepared by the International Monetary Fund (IMF); the Fund shows relative unit-labour costs in manufacturing activity as adjusted for exchange-rate changes and short-term cyclical variations in productivity performance. Table 9-8 provides the IMF indices for Canada and its two most important trading partners, the United States and Japan. According to this table, Canada's competitive position relative to the rest of the world deteriorated sharply – by almost 20 per cent, in fact – between 1980 and 1983. The position of the

United States deteriorated even more sharply, by 33 per cent. The considerable appreciation of the U.S. dollar and the related appreciation of the Canadian dollar against other currencies were the essential reasons for this deterioration. The table indicates that over a longer term – that is, since 1975 or even 1970 – Canada's relative position has not changed materially. The competitive position of the United States has followed a more volatile pattern. Moreover, the table indicates that Japan, too, has suffered a decline in its relative competitive position, albeit a modest one.

**TABLE 9-8 Index^a of Changing Competitive Position
of the Manufacturing Sector: Selected Countries**

Country	1983 Compared to 1970	1983 Compared to 1975	1983 Compared to 1980
Canada	98.0	98.6	118.4
United States	92.0	130.0	132.9
Japan	105.6	95.4	108.9

Source: International Monetary Fund, *International Financial Statistics January 1985* (Washington, D.C.: IMF, 1985).

a. Index relative to specified base year: less than 100 indicates an improvement in the competitive position; more than 100 indicates a deterioration in the competitive position.

While the IMF data indicate that Canada's competitive position deteriorated quite sharply in the early 1980s, an alternative measure of competitiveness, developed by Morgan Guaranty Trust and highly regarded, suggests that the decline was much less pronounced. Indeed, the Morgan Guaranty Trust index, which measures real effective exchange rates for non-food manufacturers, suggests that since 1975, Canada's competitive position has strengthened appreciably, by some 10 per cent. This finding is consistent with the fact that many Canadian firms and industries are successfully meeting foreign competition in both domestic and international markets. It is also consistent with the substantial increase in Canada's trade surplus since 1979.

Despite the continuing increase in Canada's overall commodity-trade surplus, there is still concern about Canada's international competitiveness, particularly in the manufacturing sector. This concern arises, in part, from certain comparisons of actual unit-labour costs in various countries, as compared to relative changes in such unit costs as those provided by the IMF and Morgan Guaranty Trust figures.

What are the absolute differences in unit-labour costs between Canada and other OECD countries? One submission to this Commission describes Canada as a very high-cost country.⁵ According to Table 9-9, which summarizes the findings presented in this submission, unit-labour costs in Canada's manufacturing sector were almost 30 per cent above those in the United States in 1983. Canada has the second-highest unit-labour costs of the nine

**TABLE 9-9 Labour Costs per Unit in Manufacturing,
Selected Countries, 1983**

United Kingdom	136.0
Canada	129.3
Italy	107.2
Belgium	106.3
United States ^a	100.0
Germany	92.3
France	86.5
Sweden	73.3
Japan	61.2

Source: Donald J. Daly, "Cost Competitiveness and Canada's Challenges and Choices", a Brief to the Royal Commission on the Economic Union and Development Prospects for Canada, July 1984, p. 3a.

Methods: These estimates incorporate the net effects of output per hour in real terms, total compensation per hour, and the 1983 exchange rates. This covers a major part of costs for GDP in manufacturing, and costs per unit for capital and depreciation can be approximated for some countries. The results are updates of the methods used in D.J. Daly, *Canada's Comparative Advantage* (Ottawa: Economic Council of Canada, 1979); A.D. Roy, "Labour Productivity in 1980: An International Comparison", *National Institute Economic Review* (August 1982), p. 35; updated by U.S. Bureau of Labor Statistics, *News*. "International Comparisons of Manufacturing Productivity and Labor Cost Trends, Preliminary Measures for 1983" (May 31, 1984).

a. United States = 100.0

countries listed in the table, and these costs are more than twice as high as Japan's. On the other hand, a calculation by Data Resources Inc., presented in Table 9-10, indicates that Canada is a higher-cost producer than Japan, France, Italy and Germany, but a lower-cost producer than the United States. Thus, one study shows that Canada's manufacturing unit-labour costs are higher than those of its major trading partner, the United States, while the other shows that they are not. By one measure, Canada's position appears to have deteriorated seriously since 1980. By another measure, Canada's position has actually improved, a conclusion that seems to tally with the recent growth of Canada's manufacturing export trade. Neither index takes resource exports into account, and therefore neither reflects the major problems that have appeared for our forestry and mining sectors. Both studies agree, however, that unit-labour costs are higher in Canada than they are in most of the other major OECD countries. There can be little doubt that Canada is a high-cost country, at least in comparison with Japan and insofar as the manufacturing sector as a whole is concerned. Nevertheless, we must be very careful in drawing conclusions from this last observation. High unit-labour costs may indicate success, in the form either of strong world demand for our products or of high-wage/employment alternatives outside the manufacturing sector. They may also indicate a past failure to keep wage settlements in line with productivity growth.

For a given firm or industry, failure to keep unit costs in line with those of foreign competitors will result in a declining share of both foreign and domestic markets. Sometimes a firm can remedy the problem by reducing

TABLE 9-10 Unit Labour-Costs Multiples of United States Levels

Country	1968	1975	1982
United States	1.00	1.00	1.00
Canada	0.90	1.03	0.94
France	0.60	0.85	0.63
United Kingdom	0.56	0.88	0.96
Germany	0.52	0.98	0.78
Italy	0.50	0.88	0.62
Japan	0.40	0.66	0.49

Source: Roger Brinner and Nigel Gault, "U.S. Manufacturing Costs and International Competition", *Data Resources Review* (October 1983), p. 1.13.

TABLE 9-11 Trade Balances in Manufacturing

Industry	[(Exports - Imports)/(Exports+Imports)] x 100					Average 1966-82
	1966	1975	1980	1982	1983	
Food & beverage	20.3	1.0	11.9	20.0	15.4	11.6
Rubber & plastics	-59.5	-63.7	-38.0	-11.0	-16.9	-42.4
Leather	-57.3	-74.9	-68.9	-68.9	-72.8	-69.4
Textiles	-73.8	-74.8	-59.4	-58.0	-64.8	-67.8
Knitting mills	-73.9	-93.7	-93.1	-92.9	-94.3	-91.1
Clothing	-41.2	-41.0	-35.3	-45.5	-55.1	-39.4
Wood	76.0	55.4	79.8	84.2	80.9	76.3
Furniture and fixtures	-42.2	-45.5	-9.2	11.1	11.0	-21.9
Paper and allied	88.9	82.0	86.6	83.4	81.0	85.1
Printing and publishing	-82.4	-73.8	-64.4	-64.8	-54.5	-70.3
Primary metals	40.9	35.3	35.4	42.3	35.0	37.6
Fabricated metals	-65.4	-52.4	-38.7	-34.7	-31.9	-45.4
Machinery	-56.9	-49.4	-47.7	-41.7	-41.8	-47.7
Transportation	-17.1	-11.7	-8.4	7.6	3.8	-4.7
Equipment electrical products	-47.0	-47.5	-39.7	-33.9	-37.2	-42.9
Non-metallic minerals	-49.0	-45.2	-33.0	-24.9	-26.3	-33.6
Petroleum and coal products	-84.6	18.2	42.0	39.5	34.8	22.6
Chemicals	-27.7	-36.6	-7.6	-7.0	-14.4	-18.5
Miscellaneous manufacturing	-49.6	-67.2	-57.7	-54.8	-54.5	-60.5

Source: Canada, Department of Regional Industrial Expansion, Economic Analysis and Strategic Planning, "Trade in Manufactured Products 1983" (Ottawa: The Department, 1984).

costs through such means as the rationalization of production, the introduction of state-of-the-art technologies, and the renegotiation of labour agreements. At other times, these measures will not be sufficient to provide a remedy, and the options for government are either to provide some degree of protection from foreign competition or to facilitate the orderly withdrawal of resources from the industry in question. If unit-cost comparisons are interpreted correctly, especially at the product or firm level, they can be an early-warning signal of adjustment problems ahead.

For the nation, failure to keep real unit costs in line with those of our major competitors will result in deteriorating trade balances and, ultimately, in a devaluation of the Canadian dollar and the decline in living standards that devaluation entails. Table 9-11 reports Canadian manufacturing trade balances (calculated as total exports minus total imports, divided by the sum of exports and imports) on an industry basis for the years 1966 to 1983. There is no general deterioration here. Indeed, in 14 of 19 industries, the trade balance was more favourable both in 1982 and in 1983 than it was over the 1966-82 period as a whole. The industries in which trade-balance data indicate a poor and deteriorating competitive position are leather, textiles, knitting mills and clothing. The problems which these industries face have been widely documented.

The trade balances of selected high-technology industries appear in Table 9-12. Most of the balances are negative and some, such as the balance for radio and television receivers, are close to the minimum value of -100, indicating that exports are very small relative to imports. The 1982 balance was more favourable than the 1966-82 mean in seven cases, less favourable in one (that is, office and store machinery, which includes computers), and about the same in one.

The trade-balance data appear to reflect a modest improvement, in recent years, in the competitive positions of most Canadian manufacturing industries. It is possible, however, that the data reflect the weak domestic demand—and the consequent weak demand for imports—in 1982 and 1983, rather than any underlying improvement in competitiveness. There is nothing inherently disturbing about a negative trade balance in any particular industry. If, however, the industries in which Canada has a negative balance constitute a growing fraction of our trade, our aggregate trade balance will deteriorate over time, raising the possibility of further depreciation of the Canadian dollar.

Another way to assess changes in national competitiveness is to measure changes in estimated national shares of world markets. An increase in a country's world-market share for a particular product implies an increase in its competitiveness in that product. To measure the size (in terms of sales) of the world market for a particular product is difficult, and so investigators employ a variety of market-share proxies. One proxy is the Canadian share of OECD exports as reported by the Department of Finance in its Economic Review. Canadian shares by broad product group are reported in Table 9-13. It is notable that the Canadian share of all exports declined by 1 percentage point over the period 1972-83. This decline appears to have been a consequence of the relative decline in Canadian exports of fuels and crude

TABLE 9-12 Trade Balances in Selected "High-Tech" Industries

Industry	[(Exports – Imports)/(Exports + Imports)] x 100				Average 1966–1982
	1966	1975	1980	1982	
Aircraft and parts	14.5	19.0	8.8	19.8	–10.2
Scientific and professional instruments	–39.1	–61.2	–56.6	–51.7	–56.6
Office and store machinery	–56.6	–39.6	–40.8	–48.0	–42.2
Household radio and television receivers	–39.3	–80.4	–77.4	–72.6	–73.2
Communications equipment	–43.1	–24.8	–25.2	–13.7	–25.3
Electrical industrial equipment	–57.7	–58.1	–46.9	–46.2	–53.9
Plastics	–74.1	–79.6	–49.5	–45.8	–62.7
Pharmaceuticals	–43.9	–56.4	–45.0	–41.1	–47.8
Industrial chemicals	–3.7	–8.8	20.8	18.9	9.6

Source: Donald D. McFetridge, "The Economics of Industrial Structure: An Overview", in *Canadian Industry in Transition*, vol. 2, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).

materials. The Canadian share of OECD-manufactured exports did not change.

Another market-share proxy consists of Canadian exports as a proportion of the exports of the world's three largest exporters, excluding Canada. According to this measure, the relationship between market share and competitiveness is as follows:

Relative market share is related to the ability to reduce costs and improve competitive position. Other factors that need to be taken into account are the relative maturity of the industry and the responsiveness of the industry to technology-based cost reduction. High relative share at the country level confers external economies to its firms because it facilitates development of technical infrastructure services such as professional associations and engineering consultants and managerial infrastructure such as international marketing services and strategic management capabilities.⁶

Table 9-14 shows changes in the average relative market shares of various Canadian industries between the periods 1971–76 and 1976–81. The table appears to indicate a decline in competitiveness between the first period and the second, since Canada lost export share (relative to the largest three

TABLE 9-13 Share of OECD Exports, 1972-83^a

Year	Canada	U.S.A.	Japan	EEC	Other OECD ^b	Total OECD Exports
	(per cent)					(billions of U.S. \$)
Food, beverage and tobacco (SITC 1)						
1972	9	24	2	60	5	27.3
1973	7	31	2	56	4	42.2
1974	8	31	2	55	4	49.5
1975	7	30	1	57	4	55.7
1976	7	30	2	57	4	58.4
1977	7	25	1	62	4	62.8
1978	6	27	1	62	4	77.3
1979	6	27	1	63	4	92.7
1980	6	28	1	61	4	110.5
1981	7	30	2	58	4	112.4
1982	8	26	1	60	4	102.3
1983	9	27	1	59	4	99.1
Crude materials (SITC 2,4)						
1972	23	29	3	30	15	19.0
1973	20	32	3	30	15	28.6
1974	19	32	3	31	15	38.1
1975	19	32	3	31	15	33.2
1976	21	31	2	31	15	38.1
1977	20	33	2	31	13	43.0
1978	18	35	2	32	18	48.7
1979	19	35	2	31	13	64.0
1980	18	36	2	31	13	71.7
1981	19	36	2	30	13	64.0
1982	18	36	2	31	12	57.0
1983	19	35	2	32	12	57.2
Fuels (SITC 3)						
1972	19	17	1	60	3	9.1
1973	18	13	1	64	4	13.3
1974	21	14	1	60	4	24.8
1975	19	16	1	57	6	27.3
1976	18	14	0	60	8	9.1
1977	15	13	0	64	7	33.4
1978	13	10	1	66	10	37.9
1979	12	9	1	66	11	59.9
1980	11	10	1	64	14	83.4
1981	11	11	1	64	13	89.7
1982	11	14	0	61	13	89.9
1983	12	11	1	62	14	85.5

TABLE 9-13 (cont'd.)

Year	Canada	U.S.A.	Japan	EEC	Other OECD ^b	Total OECD exports
						(billions of U.S. \$)
(per cent)						
Machinery and transport equipment (SITC 7)						
1972	7	21	14	53	6	101.4
1973	6	21	14	53	6	133.5
1974	5	23	15	51	6	169.0
1975	5	23	14	52	7	199.2
1976	5	22	16	51	6	226.0
1977	5	20	17	52	6	256.4
1978	5	19	18	52	6	310.4
1979	5	20	16	54	6	355.9
1980	4	20	17	53	5	413.2
1981	5	23	20	47	5	421.8
1982	5	22	19	49	5	404.8
1983	6	21	21	47	5	397.4
Fabricated materials and manufactured goods (SITC 5, 6, 8, 9)						
1972	4	12	12	63	8	110.7
1973	4	12	11	65	8	151.9
1974	3	13	13	62	8	215.1
1975	3	13	12	63	8	214.0
1976	4	13	12	63	8	236.3
1977	3	13	12	64	8	271.8
1978	4	12	12	64	8	324.1
1979	3	14	11	64	8	408.1
1980	4	14	12	62	8	475.7
1981	4	15	14	59	8	444.4
1982	4	14	14	60	8	415.2
1983	4	14	14	60	8	409.8
Total						
1972	7	18	11	56	7	267.3
1973	7	19	10	57	7	369.6
1974	7	20	11	55	7	496.5
1975	6	20	11	56	8	529.5
1976	6	19	11	55	7	588.5
1977	6	18	12	57	7	668.0
1978	6	18	12	57	7	798.5
1979	6	18	11	58	7	980.7

TABLE 9-13 (cont'd.)

Year	Canada	U.S.A.	Japan	EEC	Other OECD ^b	Total OECD exports
			(per cent)			(billions of U.S. \$)
1980	6	19	11	57	7	1 154.4
1981	6	20	13	53	7	1 132.4
1982	6	19	13	54	7	1 069.2
1983	6	19	14	53	7	1 049.0

Source: Canada, Finance Canada, *Economic Review*, April 1984 (Ottawa: Minister of Supply and Services Canada, 1984), pp. 235-36.

Note: Balances may not be the sum of detail because of rounding.

SITC = Standard International Trade Classification.

a. 1983 figures are estimates based on partial data.

b. Excludes Australia, Ireland, New Zealand, Portugal, Spain, Switzerland, Turkey and Yugoslavia.

exporters) in most of the categories listed. The largest losses were in crude petroleum, non-ferrous ores, non-ferrous metals and motor vehicles. Gains occurred in three sectors: electric power, canned meats and coal.

Care must be taken in interpreting these results. They do not necessarily imply that in absolute terms, Canada's share of world output or exports has changed, but only that it has changed relative to the largest three exporters in each industry. They may imply that Canadian penetration of a given market has changed relative to penetration by one of the three largest exporters, or that countries historically served by Canada have grown more slowly than countries served by some or all of the three largest exporters. Nonetheless, Table 9-14 suggests that there has been some deterioration in Canada's competitive position. The analysts responsible for the foregoing assessment offer the following conclusion:

This analysis of the changes in the Canadian industrial portfolio leads one to conclude that the country's manufacturing industries face a difficult future. There is a heavy reliance on slow (and occasionally negative) growth industries. More importantly, even in these slow growth areas, Relative Market Share has deteriorated, indicating that the country's overall competitive position has weakened. Finally, the relative reduction of the proportion of the portfolio in the high growth/high share area of the matrix is a sign of serious structural weakness.⁷

A nation with larger shares of rapidly growing markets might expect to see its currency appreciate in real terms and to experience the improvement in living standards that appreciation entails.

TABLE 9-14 Relative Market Shares of Canadian Industries

Industry	Relative Market Share ^a	
	Average 1976 - 81	% Change ^b
Commodity sector		
Non-ferrous ores	42.8	-13.34
Meat, poultry & fish	13.8	1.03
Basic iron & steel	4.3	1.12
Lumber & wood materials	17.3	0.72
Pulp & paper	35.3	0.13
Coal & lignite	9.9	2.78
Iron ore & scrap	32.7	-1.29
Non-ferrous metals	34.0	-7.13
Petroleum derivatives	6.4	1.32
Sunset sector		
Heavy electrical equipment	2.0	-0.64
Yarn & fabrics	1.2	-0.60
Clothing	0.7	-1.23
Leather products, furs	2.1	-0.82
Confectionaries	3.0	0.42
Hosiery & knitwear	0.2	-0.17
Foundry products	5.7	0.72
Iron & steel products	4.1	0.19
Hi-tech sector		
Light electrical equipment	2.0	-0.85
Telecommunication product	5.5	-1.58
Precision instruments	3.2	-0.89
Chemicals	14.7	1.42
Aerospace	4.9	-1.19
Pharmaceuticals	1.4	-0.24
Computers & office equipment	5.8	-0.48
Consumer electronics	0.9	-0.39
Photographic equipment	1.4	0.26
Special & misc. machines	7.1	-2.06
Transport equipment sector		
Commercial vehicles & railway equipment	16.5	1.26
Agricultural machinery	14.2	-0.65
Motor vehicles (private)	14.4	-8.74
Spare parts (motor vehicles)	17.2	-2.33
Rubber products	0.2	1.54
Capital-intensive sector		
Cigarettes, tobacco products	0.4	-0.03
Metal products	4.8	-0.18
Paints & pigments	0.5	-0.10
Fertilizers	22.7	0.27
Cement	8.2	-0.89
Watches & clocks	0.9	-0.38
Glass & glassware	3.4	-0.47
Canned preserved fruits	3.8	-0.71
Beverages (incl. alcoholic)	6.5	-3.31
Ships & boats	1.4	0.31

TABLE 9-14 (cont'd.)

Industry	Relative Market Share ^a	
	Average 1976–81	% Change ^b
Cosmetics & toiletries	1.3	–0.04
Plastics & synthetic fibers	2.7	0.31
Household appliances	1.0	–0.14
Other raw materials	37.7	0.15
Labour-intensive sector		
Clay & pottery products	1.8	0.26
Furniture & misc. wood products	6.4	–3.66
Plastic products	3.4	0.09
Electronic components	1.4	–1.57
Misc. leisure products	2.5	–0.07
Printed matter	3.7	–0.20
Carpets & misc. textiles	2.8	0.62
Miscellaneous	4.4	1.64
Energy sector		
Electric power	37.3	14.50
Coke, coal derivatives	1.4	–0.07
Crude petroleum	21.2 – 56.64	
Natural gas	39.9	–4.15
Renewable resources		
Canned preserved meat	12.6	3.37
Cereals	14.4	–2.53
Flour, other milled products	16.0	–0.67
Other agricultural products	5.9	–1.17
Dairy products, fats	3.6	0.07
Animal feeds	4.2	–1.85
Fuel wood, charcoal	46.8	–0.09
Raw materials from agriculture	26.1	1.24

Source: Joseph R. D'Cruz and James D. Fleck, "Improving the Competitiveness of the Canadian Industrial Portfolio", *Business Quarterly* 49 (Fall 1984), p. 74.

a. Relative Market Share shows Canada's share of world exports divided by the combined share of the three largest exporting countries for that industry, other than Canada.

b. % Change shows the difference between 1976–81 and 1971–76.

Thus market-share analysis can be useful, in conjunction with other types of analysis, as a tool for forecasting future trends. Such analysis has also been put to prescriptive uses. The authors of the analysis we have just mentioned and other economists argue that an "ideal portfolio" of exports would involve large shares of rapidly growing markets and small shares of slowly growing markets. Moreover, an economy that is properly adjusting to changing circumstances will, in their view, show increasing shares in faster-growth markets and declining shares in slower-growth markets: "What is disturbing is the lack of evidence of change in the composition of the Canadian portfolio.

Over time, a healthy economy should shift away from slow growth, mature industries and towards faster growing industries.”⁸ While these analysts conclude that Canada should pursue a targeted industrial policy to encourage growth of exports in areas of potential high growth, Commissioners are not persuaded, as we shall explain later, that this is a role governments can play effectively. We are convinced that the private sector will move, in time, into areas of growing opportunity, particularly if governments do not impede the adjustment process and provide a generally supportive environment.

Overall, then, recent analysis of Canada’s competitive position suggests the following conclusions:

- Canadian unit costs in manufacturing appear to have stayed in line with the unit costs of our trading partners over the longer term. However, some deterioration in Canada’s position may have occurred since 1980, largely as a result of the appreciation of our dollar relative to currencies other than the U.S. dollar.
- Canada’s labour costs have generally been higher than labour costs in Japan and in much of Europe. Studies conflict in their conclusions about our cost position compared to that of the United States.
- Manufacturing trade balances expressed as a proportion of total trade were generally more positive (or less negative) in recent years (1982, 1983) than their long-term average. The exceptions are the balances for textiles, clothing and footwear. The pattern of improving, though still largely negative, trade balances also holds in high-technology industries.
- Canada’s overall share of OECD exports declined slightly between 1972 and 1983. This decline was concentrated in crude materials and fuel exports.
- Canadian exports declined, relative to those of the three largest exporting countries, in most industries between the periods 1971–76 and 1976–81. The declines were largest in several of the raw-materials sectors.

These observations do not imply that declines in real income or adjustment problems of a catastrophic nature are on the horizon for Canada, but neither do they present a picture of an economy poised for dramatic income gains.

Productivity growth is the ultimate harbinger of things to come. The forecasts for the Canadian economy reviewed in Chapter 7 indicate that productivity growth will average between 1 and 1.5 per cent until the end of this century. This represents a substantial improvement over the 1973–81 period, but it is not guaranteed; in any event, we shall benefit if we can do better.

Commissioners have drawn attention in this Report to new sources of international competition, notably the newly industrializing countries of East Asia. We have also drawn attention to the rapidity with which technological innovation and the mass-production techniques of industrialized countries are being adopted globally. International trade competition is undoubtedly intensifying. We have already argued that Canada should not try to shelter itself from this competition; instead, we Canadians should actively seek a more liberalized trade environment and a more liberal trade arrangement with the United States.

If we are to meet these challenges successfully, the fundamental strategic objectives of industrial policy must be enhanced productivity growth and a stronger competitive position. Accomplishing these objectives means, in turn, strengthening the environment for the efficient allocation of resources and adjustment to new realities. It also means strengthening the basic factors in the economic processes of production and marketing.

A Macro-economic Framework to Support Industrial Development

Private enterprise is the dominant driving force behind our economic system. In order to function efficiently and effectively, however, it must be supported by macro-economic measures, including fiscal and monetary policies designed to promote steady growth of output and employment in a context of relative price stability.

While stable output, employment and prices must be maintained if the private sector is to function effectively, government has only a limited ability to ensure this stability. Canada is subject to external shocks that government can cushion, but that it cannot prevent. The Canadian economy's extreme vulnerability to the international business cycle was emphasized by the 1981–82 recession. Of all the OECD countries, Canada suffered the worst decline in output during that recession. Nor is Canada vulnerable only to swings in the business cycle. Changing commodity prices, exchange-rate fluctuations, the vagaries of weather conditions, and a host of other factors can have a very unsettling and costly impact on Canada's economy. The 1973 and 1979 hikes in world oil prices, imposed by members of the Organization of Petroleum Exporting Countries (OPEC), had and continue to have profound effects on this country. The inflation spiral and the productivity slow-down date from the onset of sharply higher world oil prices, although the price rise was by no means the sole source of these developments. U.S. monetary policy is an external factor that has major implications for interest rates in Canada, which in turn have major implications for the functioning of our economy.

Chapter 10 examines at length the various constraints on the exercise of macro-economic demand-management policy in Canada. The examination points out the limits on what may be achieved through monetary and fiscal policy in an economy as open as Canada's. It also argues that to be effective, demand management should be exercised within a medium- to long-term frame of reference.

While monetary and fiscal policy cannot provide a wholly stable domestic economic environment, they can, on occasion, add to the instability of the environment. For example, of the 19 federal budgets introduced between 1968 and 1984, all but five announced new housing programs or revised existing ones. Many of the programs were designed to stimulate the housing industry and, consequently, overall economic demand. Unfortunately, these programs often drove up new housing starts to an unsustainable level. Slumps in construction followed. Some years ago, the Economic Council of Canada concluded that greater stability in construction activity was important as a

means of promoting productivity growth in the industry.⁹ A longer-term framework for government housing policy could help to provide the stability required to promote productivity growth and thus complement the objective of industrial policy.

Federal budgets and mini-budgets have appeared with increasing frequency over the past decade. At times they have put forward proposals that were sweeping in concept and complex in administrative detail. The 1980 federal budget, which introduced the National Energy Program (NEP), illustrates this point. The NEP precipitated a considerable outflow of direct-investment capital as Canadians acquired interests, previously held by foreigners, in the petroleum industry. Although interest rates were already high enough to cause serious problems, they were driven still higher by the heavy borrowing undertaken to finance these acquisitions. This was only one of the unsettling consequences of the sweeping changes introduced by the NEP.

The frequency of changes in the tax laws over the past several years may also serve to undermine measures designed to encourage capital investment. It is clear, at least, that the carry-over of proposed tax legislation from one session of Parliament to the next has created an uncertainty about the status of many of the proposed new measures that can only impede capital investment and innovation in the private sector.

The principle that flexibility and adaptability are essential in a rapidly changing world extends to the exercise of macro-economic policies. As much as possible, however, governments should try to provide consistency in the overall macro-economic and micro-economic framework; unnecessary changes should be avoided, and unavoidable changes should reflect a medium- to long-term perspective. By taking this approach, governments would facilitate both decision making in the private sector and consultation between the private sector and the public sector. The private sector, in turn, must be consistent in its proposals for government initiatives.

A Commitment to Freer Trade

Commissioners have already pointed out that commercial policy constitutes a critical part of industrial policy in a small open economy such as Canada's. Part II of this Report outlined our reasons for supporting continued efforts both to reduce multilateral trade barriers and to establish much freer trade – if not free trade – with the United States. We are saying, in short, that a key component of Canada's industrial policy should be a commitment to freer trade, which should be matched by a freer flow of capital investment than there has been over the past decade or so.

The question of whether to opt for free trade or for protectionism is undoubtedly the key issue to be resolved in forming an industrial policy. This issue is brought more sharply into focus by the growing use of import quotas, export subsidies, dumping duties and restrictive government-procurement policies. The post-war trend toward freer trade has been threatened in recent years by a tendency toward "managed" trade. Given the domination of a number of industries by oligopolistic multi-national corporations, this is a

tendency that can have a particularly adverse effect on a country such as Canada.

To the greatest extent possible, Canada should avoid engaging in negative defensive competition with other countries in an effort to promote particular exports. Such an approach might serve only to encourage capital investment in areas where Canada has no comparative advantage. Rather than engaging in expensive international contests that depend ultimately on the amount of subsidy each nation is prepared to provide to a given industry—a game in which all contestants are losers—we should continue to work with other nations to build on the remarkable trade-liberalization achievements of the post-Second World War period.

Because the process of revising the framework of multilateral trade is cumbersome, involving as it does so many countries, and because Canada's trade is overwhelmingly with the United States, Commissioners have argued that there would be great merit in making a special bilateral effort to achieve freer trade with our neighbour to the south. In our view, a commitment to freer trade—on a multilateral basis if possible, but at least with the United States—would provide the single most important incentive for private enterprise in Canada to become more efficient, more innovative and, hence, more competitive.

Canadian corporations vary as widely as corporations elsewhere in the world in their ability to anticipate and respond to change and opportunity. The best of these companies are probably as able as the best anywhere, and it is likely that the same comparison also holds true of the worst. Under the protection of tariffs, quotas and other forms of support, some Canadian managements have become complacent. As data to which we shall refer later indicate, many Canadian firms are less subject to competitive market forces than are their American counterparts. As a consequence, Canadian firms may be less prepared to abandon losing operations and more likely to turn to government when they are in trouble. Of course, many Canadian companies have broken out of this pattern, and many American firms exhibit some degree of inertia. In general, however, adjustment in Canada has tended to be slower than is desirable in terms of economic efficiency.

Increased competition from the world in general, and the United States in particular, would work powerfully to induce Canadians to allocate our human, capital and natural resources in ways that would improve the country's productivity. As Commissioners have already indicated, governments in Canada should not attempt to shield domestic industry from the forces of change and the reallocation of resources that change inevitably involves; instead, they should work with industry to help it to adapt to change as easily as possible. The institution by governments of measures to facilitate the adjustment process should constitute a major component of industrial policy.

If Canada is seen to vacillate on its commitment to freer trade relations, its ability to persuade other countries to move forward in this direction will be greatly diminished. Vacillation would also encourage domestic industry to seek shelter from the harsh discipline of international competition by pressing

government for various forms of assistance. The message from government should be consistent and fair: the primary objective of industrial policy and trade policy will be to enhance the ability of the Canadian economy to respond to competitive market forces.

Since Canada's industrial policy and trade stance are so closely intertwined, a commitment to freer trade must be accompanied by a commitment to "level the playing field". If we achieve a free-trade arrangement with the United States, Canadian firms must receive effective access to all markets. The Canadian tax structure must allow domestic industry to compete effectively with foreign firms, and the regulatory framework must not unduly impede the restructuring of industry that is a necessary part of the adjustment process. In other words, it would be even more important in an environment of free or freer trade with the United States than it is now for certain of our policies to be sufficiently similar to those of the U.S. government to enable us to be reasonably competitive. This does not mean that all aspects of our industrial policy would have to approximate that of the United States. It is instructive to recall that France and West Germany have very different approaches to industrial policy: France favours a targeted approach, while West German policy is more market oriented. That such different approaches to industrial policy are permissible within a common market should allay fears that Canada would be unable to pursue independent policies in a less binding trade association with the United States. It is necessary to distinguish those areas of policy, such as taxation, where a parallel approach is required for competitive reasons, from those areas where a different approach is required because of differences in the economic structures or the natures of the two countries.

A commitment to freer trade cannot, of course, ignore the realities of the efforts of other countries to promote their exports. A widespread form of promotion is the provision of export insurance and financing, often at subsidized rates. In general, governments play an increasingly active role in international business transactions. They often justify this activity by reference to the similar actions of other governments.

The Export Development Corporation (EDC), established by the federal government in 1969, is the principal Canadian government agency involved in export insurance and financing. The Canadian Wheat Board and other Crown corporations also extend credit to purchasers of Canadian exports. However, the key role in the financing of Canadian trade is played by the commercial banks. Ninety per cent of our export trade relies on short-term financing, an area dominated by commercial bank activity.

The Export Development Corporation, which finances about 5 per cent of exports, concentrates on medium- and long-term financing to maturity, granted at a fixed price. Commercial banks may compete with the EDC in offering medium-term financing and may co-operate with the EDC in offering long-term financing of various types. The EDC directs the bulk of its financing to the support of export sales to countries in Africa, Eastern Europe and South America.

There are clearly dangers in unrestrained competition among countries in subsidizing exports. Recognizing these dangers, the OECD countries have

agreed on minimum rates for export financing. In this Commission's view, Canada should continue to support efforts to further limit subsidy activity. Meanwhile, the realities of competition for export markets must be faced. If other countries subsidize the financing of their exports in markets where Canadians wish to sell, the Canadian government must consider similar action. It must be careful, however, to ensure that the amount of the subsidy is consistent with the benefits obtained. It is not desirable to subsidize the exports of Canadian products unable to meet competitive prices even in the absence of export subsidies by other countries.

While export subsidization may be a legitimate defensive action in some situations, other means of meeting competition should be considered. Is there scope, for instance, for a more efficient design of existing programs? A research paper prepared for this Commission argues that private institutions can undertake most of what is now done by the EDC.¹⁰ According to this study, the EDC could leave short- and medium-term insurance to the private sector, while providing re-insurance and acting as an insurer of last resort for large or very risky projects.

A recent federal government consultation paper considers the possible results of increased involvement of the private sector in export finance and insurance.¹¹ It concludes that the cost of government subsidies to the private financial institutions would likely be greater than the implicit subsidy associated with the working capital extended to the EDC. However, the greater cost could be offset by the increased volume of exports that might accrue to Canadian exporters from the improved services offered by chartered banks.

One possibility, then, would be to channel all subsidies for export finance through private financial institutions. The role of the EDC would be to administer the subsidy mechanism, to monitor the benefits of the subsidies, and to continue to discharge some of its guarantee and insurance functions. While this possibility merits serious consideration, the difficulty of regulating the required subsidies poses tough political and administrative problems. Commissioners therefore recommend caution in moving toward "privatization" of the functions carried out by the EDC. While increased involvement of financial intermediaries would appear desirable, it must be noted that their involvement is already extensive. At issue are those cases in which market failure is likely, and in which national interests are not likely to be served by market forces. Government participation through the EDC and other such agencies would appear warranted; other countries have apparently reached this conclusion, since they have maintained similar agencies.

A Commitment to Strengthening Canada's Labour, Capital, Technology and Management Inputs

Measures for improving the training and adaptability of Canada's labour force are proposed elsewhere in this Report. Commissioners' recommendations include the institution of new means for financing post-secondary education; less emphasis on institutional training and more emphasis on on-the-job training; greater incentives for retraining and mobility; and greater

incentives, through gain sharing, for consultation between management and labour on wage levels and productivity initiatives. In Chapter 8, we have already addressed the questions of capital formation, technological progress, management and entrepreneurship. Since in that chapter we did not address these important elements of our economy in the framework of an industrial policy, it may be helpful to summarize briefly here our main conclusions with respect to them.

Capital Formation

While some recent studies have suggested that taxation of savings and investments may impede the growth of the capital stock, the portion of capital investment undertaken in Canada over the past few decades in relation to gross national product (GNP) has been reasonably satisfactory by OECD standards. Commissioners' studies indicate that the government should review the effect of the tax system on savings and investment, to see, in particular, whether it encourages unproductive forms of savings and investment, and to assess the adequacy of allowances for inflation. The reviewers should also consider the effects of shifting the basis of personal and corporate tax from net income to expenditures, as we shall explain more fully below.

Research and Development

A target level of expenditures on research and development (R&D) in relation to GNP would not, in Commissioners' view, be a particularly useful element of industrial policy. The effectiveness of R&D expenditures is much more important than their quantity. To increase the effectiveness of R&D, we have advocated that governments consider several steps. They should ensure that existing incentives are available to all businesses by refunding to taxpayers credits which the latter cannot claim, under present arrangements, if they lack taxable income. They should broaden the definition of R&D, even though the change might cause administrative problems, and reduce the rate of tax subsidy. They should ensure that adequate resources are devoted to obtaining information about foreign technological developments. Canada should maintain a network of contacts with experts in other countries and should establish a more frequent Canadian presence in new technological development. Governments should also increase the exposure of domestic industry to international competition.

Acquisition of Technology

New technologies are being shared more and more on a world-wide basis, and the originating country often has little lead time over other countries to exploit the benefits of its discoveries. Canada draws extensively from the world pool of new technologies, in part through foreign investment by multinationals. Within Canada, new technologies seem to spread more slowly among manufacturing industries than in other countries. One means of speeding up the process is to provide the spur of liberalized trade and

increased competition. In addition, minimizing barriers to the flow of direct investment would also encourage early Canadian adoption of new technology.

Public policy in the area of education, together with measures that encouraged the gathering and dissemination of information on new advances in technology, could also contribute to improved technological adaptation in Canada. Greater emphasis on science, engineering and business courses in post-secondary education may be necessary. Universities should be more active in undertaking R&D that has a commercial potential. The National Research Council's initiatives in gathering and disseminating information could provide a model to be followed by other similar organizations. In other countries, technology brokers, contract-research organizations, and "think tanks" have played a pivotal role in the acquisition of technology. Both Canada's private and public sectors should involve themselves more actively in these types of endeavours. The recent establishment of the Canadian Institute for Advanced Research is an example of private sector initiative, undertaken with public sector support, which will help Canada move to the forefront of technological innovation.

Management and Entrepreneurship

Increased international competition would make all the more compelling Canada's need to develop business management that can match the best in the world. In addition, it would itself act as a sharp stimulus to the improvement of the quality of Canadian management. While government can help to up-grade management by reorienting assistance to small business and increasing support to education in business administration, the responsibility for improvement rests principally with business itself.

Entrepreneurship plays a key part in developing our economy. While small business is a vital source of entrepreneurship, there are other sources, too, which require encouragement. Some tax changes might encourage venture-capital activity. Relaxing regulatory restrictions might increase equity investment by financial intermediaries in small and medium-sized firms; in addition, the federal government should change the tax system to encourage companies to issue equity capital (as opposed to debt) and investors to hold such shares.

Other adjustments respecting small business and entrepreneurship include review of the capital-gains tax (especially the deemed realization of capital gains when the proprietor of a family business dies), a greater degree of neutrality in the tax system, and greater awareness of the problems of access to government subsidies. In addition, governments should recognize that requirements imposed in connection with the administration of social benefit programs pose particular problems for small firms.

A Commitment to Framework Policies that Encourage Adaptation and the Efficient Allocation of Resources

We Commissioners have repeatedly urged that governments pursue an industrial policy that relies heavily on the responsiveness of the private sector

to market forces, rather than on active intervention by government in the market-place. Moreover, we strongly believe that this approach must be complemented by measures which will encourage the process of adjustment to new competitive forces in a way that is consistent with the efficient use of our scarce human, capital and natural resources.

*Tax Policy*¹²

The tax system is one of the most important determinants of economic growth over the longer term. When the Royal Commission on Taxation (the Carter Commission) reported in 1966, one of the foremost goals of policy analysts was the establishment of a tax system that was equitable in its treatment of different groups. While equity remains an important goal, tax specialists now stress the need for a system that is calculated to encourage economic efficiency. This shift in emphasis is partially explained by a growing awareness of the constraints imposed by Canada's exposure to large international capital flows, which can be strongly influenced by the tax system.

In designing tax measures, governments must consider their effect on both the allocation of resources and the distribution of income. This Commission has focused its attention on those features of the tax system that appear to detract unnecessarily from the long-run growth of gross national product (GNP), and on those income features that have little to do with distribution goals or that could be altered and still be consistent with such goals. To understand the issues involved, it is necessary to be aware of some very general relationships between the tax system and economic growth. Personal and corporate-income taxes that accrue from income derived from capital may reduce savings and investment and, hence, the capital stock; since the size of the capital stock is an important determinant of potential output, it follows that taxes of this kind can affect Canada's growth.

Tax measures that are biased against risky undertakings may cause investors to direct an undue share of resources toward mature stable industries. Taxes on wage income can influence the incentive to work, while payroll taxes, such as those that support Unemployment Insurance and pension funds, can induce firms to substitute capital for labour. Commodity taxes favour some commodities, and thus some lines of production, over others. Some taxes, such as those on alcohol and tobacco, may be deliberately used to discourage production and consumption. Finally, economic growth can be influenced by the relative complexity of the tax system.

Personal income taxes, including payroll taxes, drive a wedge between the value of output produced by a factor of production and the net return received by the owner. Consequently, less of the factor may be supplied than is desirable. Both the U.S. Treasury's *Blueprints for Basic Tax Reform*¹³ of 1977 and the United Kingdom's *Meade Report*¹⁴ of 1978 recommended adoption of a tax system based on consumer expenditures, referred to hereafter as a "consumption tax". A consumption tax, which would replace the existing personal and corporate income taxes, would be based on what one

removed from the "social pot" rather than on what one contributed in the form of income. Unlike existing levies on consumption, such as the retail sales tax, a consumption tax would not be imposed on individual items of purchase. It would be calculated on the basis of total income over the year, adjusted for the change in registered savings; the resulting figure would represent total consumption during the period.

Consumption taxation, unlike income taxation, does not distort savings. An income tax, by taxing the returns to saving, raises the "price" of future consumption relative to present consumption and thus favours the latter. Under a consumption tax, present and future consumption bear the same rate of tax. The consumption tax, therefore, does not influence the timing of consumption or the level of savings and investment. Replacement of the income tax by a consumption tax would also result in an increase in the labour supply and in the rate of return on investment. It would appear then, that to move from an income-based tax to a consumption-based tax could result in substantial efficiency gains and a major boost to GNP. One econometric calculation made in the United States has estimated that a switch to a consumption tax could lead to a sustained increase in GNP of as much as 10 per cent.¹⁵ The gains in the more open Canadian economy would probably be smaller.

The consumption tax is often criticized on the grounds that because it would exempt capital income, it would be regressive. This argument overlooks the fact that the rate structure of a tax is independent of the base. The desired degree of progressivity can be achieved through a consumption tax—as it can be achieved through an income tax—by altering the rate structure. During the transition from an income-based tax to a consumption-based tax, some taxpayers would gain and some would lose; transition provisions could moderate this result, but it would remain a problem.

On balance, there appears to be merit in the concept of a consumption-based personal tax system. The present system's provision for Registered Retirement Savings Plans (RRSPs) and Registered Pension Plans (RPPs) has already moved it some distance in the direction of a personal consumption tax, and to ease or remove the present restrictions on RRSPs and RPPs would be a logical step in extending this process. Current restrictions exclude these funds from the benefit of the dividend tax credit, thus creating a significant incentive to hold debt rather than equity. This is an example of a tax disincentive to equity investment in Canada.

Certain features of the current personal income-tax system introduce distortions by unduly favouring particular types of savings. Thus, until the May 1985 budget measures, contributions to a Registered Home Ownership Savings Plan (RHOSP) were sheltered (up to a limit), and withdrawals remained untaxed if they were used to purchase housing. Other provisions of the present system that may be overly generous to capital income are the \$1000 pension-income deduction and the Quebec Stock Savings Plan.

A feature of the existing corporate income-tax system that distorts resource allocation is its lack of indexation provisions for inflation. Although *ad hoc* adjustments such as accelerated capital-cost allowances help to offset the effects of inflation on the cost of capital, such adjustments are not sensitive to

the level of inflation. Inventories, in particular, have been severely hit by high effective tax rates during periods of rapid inflation. The simple remedy would be to index to the general price level the capital-cost allowance and the first-in/first-out cost of inventory. Alternatively, the problem relating to inventories could be solved by allowing the last-in/first-out approach to inventory accounting.

Because the corporate income-tax system does little to take into account the degree of risk associated with a given rate of return, it is, in effect, biased in favour of "safe" investments. Various measures have been introduced to compensate for this shortcoming, but their effect is selective. For resource industries, these measures include fast write-offs for exploration and development expenses. Other tax measures, such as the investment tax credit and accelerated capital-cost allowances, help to offset risk associated with R&D expenditures and investment in manufacturing. The current provisions of the capital gains tax are, however, biased against risk-taking; this bias is illustrated by the fact that capital gains are fully subject to tax, while limits are imposed on the amount of capital losses that may be claimed against other income.

In view of the extent to which the present corporate-tax system distorts investment, this Commission has concluded that governments, in consultation with business, should consider adoption of an alternative means of calculating the corporate-tax base. Fundamentally, the corporate-tax base is currently defined as accruing revenue less current costs plus the cost of depreciation and interest on debt: that is, the inherent rental cost of a firm's capital. The alternative Commissioners suggest for consideration is adoption of a cash-flow method of defining the tax base. According to this method, the tax base is defined as revenues less all input expenses on a cash-flow basis. Thus capital investment would be immediately deductible, but no deductions would be permitted for interest or depreciation. Achievement of the full benefits of this approach would require a provision for the refundability of "negative taxes": that is, the refundability of any excess of deductions over taxable income. Full refundability would ensure the neutrality of the tax, reduce discrimination against risky ventures, and make it easier for firms to finance investment.

Research carried out for this Commission indicates that other features of the existing tax system have further adverse economic effects. Resource taxes based on production rather than on earnings discourage output from high-cost sources. The federal sales tax on manufactured goods creates an incentive for retailers to undertake the production of the goods they sell, an arrangement which may not serve the best interests of the economy as a whole. Price regulation can be a form of taxation, and its effects are often as distortive as those of the tax system itself. Thus, for example, when provincial utilities sell electricity to consumers at prices below its real value, this effective transfer of resource rents to power users rather than to provincial treasuries benefits larger consumers at the expense of smaller ones, distorting the allocation of electricity. The same point applies to the federal government's policy, now being abandoned, of setting the price of domestic oil sold in the Canadian market below the prevailing world price.

In its broadest form, then, the tax system has a powerful influence on the allocation of resources in our society, and on the extent to which these resources are produced and consumed. This Commission considers it important that the disincentives inherent in the tax system be replaced with measures that will encourage the efficient allocation of productive resources and the adoption of new processes, products and services. In our view, such measures are necessary components of any industrial policy that will enable Canada to meet its strategic objectives. Tax measures, however, are extremely complex and sensitive, demanding a great deal of analysis and consultation before policy changes are formally presented in Parliament.

The Regulatory Framework

Varying kinds and degrees of regulation by government departments and agencies affect extensive sectors of the Canadian economy: financial institutions, investment dealers, transportation, communications, agriculture and energy, to name only a few. The exercise of such regulation has an important bearing on the allocation of economic resources. Regulatory requirements should, therefore, be as consistent as possible with what Commissioners consider ought to be the primary objective of Canadian industrial policy: fostering the growth of productivity and competitiveness.

Over a period of some years, complaints have been growing, in some quarters, that Canada is overregulated. Submissions to this Commission frequently repeated these complaints. These allegations beg certain questions: Is there more regulation in Canada than in most other countries? Has regulation increased at a faster pace in Canada than in other countries in recent years? Do the nature of Canada and our traditions and values suggest the need for a more extensive regulatory framework than that required by other countries, including the United States? The answers are important because excessive or misdirected regulation can constrain competition and restrict improvements in productivity.

Since so much of Canada's trade is with the United States, the most pertinent international comparison of our regulatory framework is with that of our major trade partner. A 1980 study represents the most thorough attempt to determine the extent and/or intensity of economic regulation in Canada compared with that in the United States.¹⁶ The study concluded that the scope of federal regulatory activity in Canada is similar to that in the United States. It found dramatic differences, however, in the statutory restrictions placed on regulators, which are much greater in the United States than they are in Canada. Resources devoted to the enforcement of regulations at the federal level were proportionately higher in Canada both in 1970–71 and in 1977–78. The authors of this study concluded that the intensity of enforcement of regulations was about the same in the two countries. The rate of growth of federal regulatory activity during the 1970s was roughly the same in both countries, although employment growth among federal regulators was greater in the United States.

According to this 1980 report, as of the late 1970s, a moderately larger proportion of the gross domestic product (GDP) was generated in sectors

subject to price or entry controls in Canada than was so generated in the United States. Most of the difference was the result of the greater prominence in Canada of regulated sectors, such as transportation, rather than the result of a greater degree of regulation. An exception is the agricultural sector, which is more highly regulated by marketing boards in Canada than in the United States. A survey paper¹⁷ prepared for this Commission estimated that in 1978, 31 per cent of Canadian GDP was subject to price, output or entry controls, and that this proportion had increased to 34 per cent by 1980.

There are other differences, too, between the Canadian and American situations. Canada often regulates largely state-owned industries, such as railways, airlines and telecommunications, while the U.S. Administration does not generally undertake this responsibility. Moreover, although Canadian regulation is at least as broad as that of our neighbour, there may be a difference in the burden it imposes. The types of programs that American business people find the most onerous—occupational health and safety, fair employment practices, and environmental protection—have tended to receive less emphasis in Canada.

Regulatory activities that are more extensive in Canada have usually involved specific industries, such as airline and railway transportation, and areas of agriculture under the control of marketing boards. Many observers have argued that a desire to increase profitability often motivates regulation of particular industries. In this respect, regulation in Canada may be less burdensome, from the point of view of those regulated, than it is in the United States.

Since publication of the 1980 study mentioned above, the regulatory picture has changed considerably: there has been a move toward deregulation in the United States and, to a much lesser extent, in Canada. A more recent study¹⁸ calculated that the proportion of U.S. economic activity carried out under “effectively competitive conditions” rose from 56 per cent in 1958 to 77 per cent in 1980. The study attributed the increase in competition to the decreasing importance of scale economies in manufacturing, rising competition from imports, and anti-trust activity and deregulation. The author was unable to measure the contribution of the decline in scale economies to the increase in competition. He estimated by abstraction, however, that import competition accounted for 37 per cent, anti-trust for 40 per cent, and deregulation for 23 per cent of the remaining increase in competition between 1958 and 1980.

Since the mid-1970s, U.S. deregulation has affected the following industries: telephone equipment, railroad transportation, trucking, air transportation, long-distance telephone service, banking, and security and commodity brokers. The study just referred to concluded that U.S. anti-trust authorities spurred deregulation:

It was Antitrust Division pressure that led the Securities and Exchange Commission to abolish the fixing of stock-broker's fees in 1975. New competition in the telephone sector has partly been created by antitrust cases and pressure on the Federal Communication Commission. The deregulation of banking entry and pricing has also been advanced by a variety of antitrust actions.¹⁹

Canadian officials have acted in a similar matter. As a result of the 1975 amendments to the Combines Investigation Act, the Director of Investigation and Research can appear before marketing boards and regulatory tribunals to represent the public's interest in competition. The Director's intervention has led to some deregulation. The Economic Council of Canada has argued that the regulatory process may not adequately recognize the public interest in free competition. The Director can, by intervening, help to remedy this shortcoming. The role of the Director in defending freedom of entry into the underwriting of unregistered securities is a case in point. To reduce regulation of some important sectors of the Canadian economy would strengthen competition, a development which Commissioners have strongly advocated.

Some limited deregulation has taken place in Canada over the last five or six years. In its announcement of its new air-transport policy, in May 1984, the federal government mentioned some of the problems created by ill-advised regulation of the private sector. The policy statement concerning the air-transport industry contended that past regulation had hindered the adoption of innovative provisions with respect to both services and pricing; reduced the flexibility of airline management in pursuing new market opportunities and in adjusting their operations to minimize cost; hampered the ability of airlines to respond quickly to changes in circumstances; through undue delays in regulatory decisions required airline management to devote excessive time and energy to essentially unproductive regulatory considerations; and because it is difficult to anticipate regulatory decisions, complicated airline planning.

To date, deregulation has brought liberalization of the terms on which airlines can offer discount fares, licence consolidations that allow airlines some flexibility in route structuring, and a greater willingness to approve additional trans-border services. While this development is not nearly as extensive as U.S. deregulation, it signals a considerable reduction of regulatory control of air transport.²⁰

Regulatory control, or planning, goes beyond the enforcement of health, safety and environmental standards to effect decisions about who should offer what service, where, when and on what terms. Deregulation of U.S. airlines triggered rethinking of Canadian policy. In any case, the Canadian regulatory process was becoming too complex and too highly subject to political consideration. To limit regulation of the airline industry to issues of safety and quality will probably be economically beneficial. Deregulation in the United States has not caused, as some had feared, loss of service to small communities; it has resulted, instead, in service more appropriate to the size of the communities served.

Some deregulation has occurred also in Canadian telecommunications. Technological change has made competition on a number of fronts both feasible and desirable. In such areas, governments can no longer justify regulation on the grounds that it protects consumers against exploitation by a natural monopoly. Remaining regulation is now clearly intended to redistribute costs, and therefore income, among various groups of users of telecommunications services; to ensure Canadian sovereignty; and to further national unity.

Telecommunications regulation, for example, redistributes costs by permitting long-distance service to subsidize local telephone rates. The issues are complex, and Commissioners would not argue that the rates charged on these services should necessarily equal their respective costs. If they did, however, local-service rates might rise by as much as 70 per cent, and long-distance rates might decline by 50 to 70 per cent.²¹

While Commissioners will not pursue specific issues in telecommunications currently before regulatory authorities for decision, certain broad issues deserve consideration, as they involve regulation generally. Is there a better way to a transfer income than through cross-subsidization of one service by the users of another? Even if there is a better system, can our political institutions, including the regulatory agencies, see to its implementation? We shall return to these questions later in this chapter.

As we have seen, the federal government has already reduced regulation and infused increased competition into the telecommunications industry. It has allowed attachment of subscriber-owned single telephone lines, key systems and private branch exchanges to the Bell Canada and other telephone systems; permitted the interconnection of the equipment of other telecommunications systems (such as CNCP Telecommunications) with that of the Bell and other telephone systems; let radio-paging services interconnect with telephone systems; and approved the attachment of coaxial cable to telephone-company structures. As one study²² has noted, however, not all recent regulatory decisions have supported competition. An example is the 1977 approval of an agreement between Telesat and the telephone companies that precluded any long-distance competition among them.

Some deregulation has also occurred in the financial system. The role of foreign banks in the Canadian economy has increased as a consequence of the most recent amendments to the Bank Act. The distinctions among banks, insurance companies, trust companies and investment dealers is becoming less clear day by day as each group begins to hold assets and issue liabilities that formerly represented the province of only one group. The Government of Quebec has announced that it intends to permit, to the extent that its jurisdiction allows, "full services" to financial institutions by 1985. Elsewhere banks are offering discount-brokerage services, brokers are offering "cash-management accounts", and credit unions are engaging in commercial lending.

The trend in the agricultural sector, however, has been in the opposite direction. In 1971, there were 97 federal and provincial agricultural marketing boards. By 1981 the total stood at 124. In 1962, marketing boards received 14 per cent of farm-cash receipts, while by 1983, the proportion had risen to 55 per cent.

The imposition of quality, safety and environmental standards is potentially of mutual benefit to producers and consumers. Realization of this benefit depends on how these standards are set and enforced. Studies conducted by the Economic Council of Canada have found that quality and safety standards have been effective in reducing serious accidents. Problems continue to exist, however, in that standards are often set without proper

consideration of compliance costs. A survey conducted by the Council and submissions to this Commission cited a number of examples of burdensome compliance costs. Stelco claimed that regulatory requirements raised the construction costs of its Nanticoke plant by about 11 per cent, and that its operating cost is 8 per cent higher than if "less stringent, but equally effective, environmental requirements had prevailed."²³ It argued that it could have avoided many of these costs without sacrificing environmental standards. Respondents to the Council's survey also reported incurring substantial costs through participating in regulatory proceedings.

Even more burdensome, perhaps, are both the uncertainty regarding specific application of often-vague regulatory provisions and the necessity for dealing with overlapping agencies and jurisdictions. Individuals appearing before this Commission claimed that these problems were of a continuing nature. Respecting regulatory uncertainty, one participant observed:

A major part of the problem with regulation is regulatory uncertainty. The unique circumstance of mining is that it is . . . highly capital intensive and when you get through the various regulations which you have with respect to staking claims and that sort of thing and you find a deposit you want to work at, the approvals process that one goes through in British Columbia will probably take two to three years and an expenditure of somewhere between \$5 and \$10 million to prove not a whole lot.

(Tex Enemark, Transcript, Vancouver, June 12, 1984 [vol. 8], pp. 1935–36.)

Another intervenor made this comment on overlapping jurisdictions:

We believe that performance generally will be most improved by less, not more, government presence in the market-place. Needed are fewer rigidities, a cut-back of counter-productive regulations, and the removal of such obstacles to commercial efficiency as overlapping plant inspections; interprovincial impediments to the mobility of goods and labour; and the restrictive supply management structures. (George Weston Limited, Brief, September 24, 1984, p. 1.)

The Economic Council has found that the regulatory process was not, in general, among the more important problems facing the small-business community:

*Rather, their principal headache seemed to be the paperwork associated with taxation, statistics, and customs and excise requirements. Most of their regulatory difficulties involved zoning, planning, building codes, transportation, and labour standards. Their greatest frustrations with regulations were evident when many regulatory jurisdictions intersected, as in the case of land use and construction.*²⁴

Many participants in this Commission's hearings, however, believed that regulation constitutes a continuing burden on small business:

Business[es], especially (but not only) small businesses, are burdened with non-productive government regulations. An easing of regulations will be beneficial to all Canadians. (Canada Jaycees, Brief, July 20, 1984, p. 3.)

Participants in this Commission's symposium on small business mentioned the disproportionate burden that regulations, notably those on relations with employees, place on small business:

Another problem that we find onerous to small business is the over-regulation . . . In the Province of Ontario where we have the Employment Standards Act and the Human Rights Commission—all of these things don't present too much of a burden to the large business, but they [reduce] . . . the flexibility of a small business.

(Russell Beach, Beach Industries Limited, at Royal Commission, Small Business Seminar, Transcript, October 15, 1984, pp. 79–80.)

For smaller businesses, then, the regulatory framework appears to hamper growth and job creation.

While a great deal of regulation concerns our collective interest in safe products, a safe work place, and a healthy environment, much of it oversees the transfer of income from one segment of society to another. This activity involves provision of services at less than cost to some users and at more than cost to others, and/or monitoring the returns to the producer(s) involved and establishing limits on their charges as means of restricting profits to a "reasonable" level. As Commissioners have stated above, effecting these income transfers often requires a detailed regulatory intervention by government, which we have referred to as "regulatory planning" or "control".

Two survey papers²⁵ report the size of some income transfers resulting from regulation. There are transfers from one group of consumers to another in the telecommunications, airline, railway and trucking industries. The expense of undertaking these transfers includes the cost of the regulatory process itself; the consumption forgone on purchases deterred by regulated prices higher than they would have been under competitive conditions; the additional production cost incurred as a consequence of substituting less efficient for more efficient producers and techniques; and the costs of seeking and defending beneficial regulatory provisions.

Would society benefit from reduced regulation? One school of thought says that regulatory transfers are not visible to those who must pay for them. Making them more explicit—by including them in the tax-expenditure process, for example—would increase their "political cost" and correspondingly reduce their popularity. In some cases, then, governments would cease to permit transfers that were feasible only by regulation. Society might benefit from this outcome.

Transfers might continue in some areas, by cheaper (if politically more difficult) means such as the tax system:

*Recognizing that risk adds to the direct costs of redistributing income through regulation leads to a better appreciation of the merit in the economists' dictum that a direct cash subsidy paid out of general tax revenue is a more efficient instrument for redistributing income than is direct regulation.*²⁶

One of the research studies prepared for this Commission²⁷ sounds a proper note of caution. It argues that we often do not know whether a practice of a particular industry is part of a cross-subsidization scheme. Prices are generally the same, for instance, for small and extra-large shirts. Does this

represent a cross-subsidy from small to large persons? Or does it reflect the fact that price differentiation would be more bother than it would be worth? Furthermore, even when we identify cross-subsidization, we are not sure of its ultimate beneficiaries. Local telephone rates are higher for businesses than for residences. It is difficult to judge who ultimately benefits from this differential. It is not easy, then, to make regulatory transfers more explicit and more politically visible. Nevertheless, some movement in this direction appears desirable.

In conclusion, regulation involves complex issues. The first fundamental is to determine who should make the regulations, and how they should be made. Given the requirement that the regulator be disinterested, government is the obvious choice. More pressing issues of current concern relate to the regulatory process itself. Commissioners have identified a number of shortcomings and have put forward a number of proposals for correcting them. The problems raised include: an excessive degree of regulation in certain areas, compounded by the existence of conflicting and overlapping regulations; the granting to the regulators excessive discretion, which adds to uncertainty; insufficient consultation on proposed changes in regulatory provisions; and the obscurity surrounding the transfer of costs (income) often inherent in certain regulatory requirements. As a means of reducing or eliminating these problems, Commissioners suggest reform of the regulatory process in several areas.

Suggested Reforms

Sunset Provisions. Commissioners propose a “sunset clause” for major regulatory activities undertaken by federal departments and agencies. The primary purpose would be to require Parliament periodically (perhaps every ten years) to consider whether a particular regulatory function should be continued. If Parliament approves continuation, it could revise the governing legislation to take account of changing conditions and circumstances, as is required every ten years in the case of the Bank Act.

Reducing Regulatory Discretion. Governments usually establish regulatory bodies to undertake functions that require the exercise of judgement. As a consequence, they must give regulators some discretion in carrying out their mandate. Governments may, however, give regulatory authorities too much discretion and thus add unnecessarily to the uncertainty surrounding the process. Commissioners suggest review of the existing mandates of regulatory bodies to determine whether Parliament could more precisely define the responsibilities of the regulator and more accurately describe their routine procedures and proceedings.

Increasing Consultation. Within recent years, public authorities have increasingly recognized their obligation to consult those affected directly and indirectly by the establishment of new regulatory processes or changes in existing ones. This obligation should apply to proposed regulatory provisions

made by the government itself and those of a more detailed nature proposed by regulatory bodies. The federal government could give new momentum to the process by requiring the government and/or the regulatory body concerned to consult with the public and other special-interest groups, as appropriate, on proposed changes in regulatory requirements or procedures. Parliament should oversee this consultation process.

Overseeing Regulatory Redistribution of Incomes. Through the exercise of their authority, as Commissioners noted earlier, many regulatory bodies sanction or require redistribution of costs and, thus, of incomes, often through cross-subsidization among various users of a particular service. Each case needs examination on its own merits. Such transfers, however, are often hidden or obscure. Without full knowledge of the extent of such redistribution, it is, of course, impossible to consider whether the redistribution is warranted. To make such assessment possible, we suggest that Parliament require regulatory bodies, or perhaps the Director of Investigation and Research, to report regularly to Parliament and the public on the full extent of all redistribution of costs and income sanctioned by regulatory provisions.

Competition Policy

It has often been argued that markets in Canada tend to be less competitive than those in other countries, particularly the United States. Many Canadian industries are characterized by relatively few producers and relatively little variation in market shares over time. Moreover, most analysts agree that Canadian competition policy is ineffective in preventing the concentration of economic activity.

In the 1970s, it became fashionable in North America to diversify, and a number of large conglomerates were formed. These mergers were financed in a variety of ways, but eventually, sizeable amounts of stock came into the hands of institutional and small investors. Thus the conglomerates were forced to face the discipline of the stock market. In Canada, much of the take-over activity was facilitated by heavy reliance on debt instruments, and the only check on the concentration of power was the obligation to make payments to the banks. Substantial pools of private capital were also involved, accompanied by debt financing from the banks, and the acquisition of control of very substantial assets.

A study, undertaken for this Commission, of the concentration of economic activity in Canada reached the following conclusions:²⁸

- Aggregate concentration (that is, the share of corporate assets controlled by the largest 25, 50 or 100 enterprises) has risen since 1968 and, especially, since 1975. The proportion of the assets of the largest 100 enterprises that is accounted for by Canadian or government-owned firms has also risen.
- Concentration increased in most of the major sectors over the period 1975–80 as Table 9-15 shows. Underlying these sectoral changes was a wide variety of changes in concentration ratios of industries within particular

sectors, including mineral fuels (+8.3 percentage points), department stores (+12.2 percentage points), and water transportation (−17.1 percentage points). There was little substantial change within the manufacturing sector.

- The pattern that has evolved in Canada is one of declining concentration in industries that were formerly highly concentrated and increasing concentration in industries that were not. This pattern was particularly evident between 1970 and 1980.
- Individual Canadian industries tend to be more highly concentrated than their counterparts in the United States. That is, the proportion of shipments or sales accounted for by the largest four producers is much higher in most Canadian industries. In total, nearly four-fifths of U.S. economic activity is essentially competitive. The estimate for Canada is substantially lower, amounting to only two-fifths of economic activity as measured by GNP.

The question is: What are we to make of this evidence? Let us begin with the problem of increasing aggregate concentration.

Economists generally assess the consequences of industry concentration within the context of a particular sector. Estimates of aggregate concentration are simply measures of the size of the largest enterprises in a given sector of industry in relation to the size of the sector, but not in relation to the size of a particular market. The fact that an enterprise is large does not

TABLE 9-15 Change in Four Firm Concentration Ratio,^a 1975–1980

Industry	Change
Agriculture, forestry, and fishing	−0.5
Mining ^b	−1.1
Manufacturing	+0.4
Construction	−3.0
Wholesale trade	−4.1
Retail trade	+5.1
Transportation, communications, and utilities	+7.8
Finance	+4.4
Services	+7.6

Source: R.S. Khemani, "Extent and Evolution of Competition in the Canadian Economy", in *Canadian Industry in Transition*, vol. 2, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).

a. Change in % shipments accounted for by the largest four enterprises (including government enterprises) 1975 to 1980.

b. Indicates 1976 data.

necessarily imply adverse economic consequences; on the contrary, large enterprises are usually expected to benefit from economies of scale. The report of the Royal Commission on Corporate Concentration offers these conclusions:

Our study of conglomerate corporations revealed that their diversification has probably not increased concentration within industries and may even have increased competition. There are some indications that conglomerate diversification has decreased the overall efficiency of the firms involved, as measured by return on assets, and that investors in highly diversified firms have received lower-than-average returns. In theory, diversified firms have a greater ability than other firms to engage in a variety of anticompetitive practices (predatory pricing, cross-product subsidization, tied selling, etc.) but we have found only a few instances in which they have exercised this power. We conclude that the proposed competition law can deal with these problems adequately. Similarly, we see no need for special legislation affecting conglomerate mergers.²⁹

Increases in producers' concentration in a particular market can be harmful, but only under a restricted set of circumstances. The number of domestic producers in an industry will not affect competition if the industry is exposed to international competition, or if there are minimal barriers to the entry of new competitors. Even if new entry is difficult and there is little or no international competition, the consequences are not inevitably harmful. If additional producer concentration results in the creation of larger, more efficient plants or in a more rationalized distribution of output within and among plants, then the benefits to the economy of lower-cost production will generally outweigh the costs arising from the increase in monopoly power.

A study done for this Commission finds that increases in lengths of production runs, which are often the result of rationalization, are generally associated with increases in producer concentration.³⁰ Thus, if our domestic producers are taking advantage of the economies of large-scale production, we should expect them to be large relative to the Canadian market. Moreover, as the rationalization of production proceeds, a number of Canadian industries may become even more concentrated, which would not be an undesirable development.

The importance of liberalized trade as a guarantee of competition cannot be stressed too often. Given the discipline of international market prices, Canada can obtain the benefits of scale and of rationalization economies without suffering any increases in domestic monopoly power. This point is emphasized in a recent Economic Council of Canada study³¹ that compares the concentration of domestic *production* with the concentration of domestic *sales*, including sales of imports. When this import-adjusted measure of concentration is used, Canadian concentration levels are much closer to the levels prevailing in the United States. In addition, because trade increased during the 1970s, import-adjusted concentration in Canadian manufacturing actually fell by about 10 per cent during the decade.

Let us turn now to the more general assessment in this Commission's study³² that the proportion of GNP produced under effectively competitive

conditions is much lower in Canada than it is in the United States. This type of calculation is very difficult to make accurately; other investigators might reach different conclusions. Nevertheless, the estimates contained in the study – that four-fifths of the U.S. economy is competitive, as opposed to only two-fifths of the Canadian economy – do suggest that the difference between the two proportions is significant whatever its precise dimensions.

The study attributes much of this difference to the greater prominence of government-enforced price, output and entry restrictions in this country. For example, it estimates that 86 per cent of the U.S. agricultural sector is effectively competitive, while the corresponding figure for Canadian agriculture is only 53 per cent. The reason for the difference is that Canada makes much greater use of supply-restricting marketing boards than does the United States.³³

This finding has two implications. First, the power to increase effective competition in the agriculture sector lies almost wholly within the hands of the provinces and the federal government. Governments could do away with supply-management boards or revise their mandates in order to provide greater room for competition, perhaps by raising the limits of permissible supply, by facilitating the entry of new producers, or by allowing for a greater degree of international competition in the domestic market. This point could be applied to many other sectors. The perceived lack of competition in Canada is the result, in many instances, not of an absence of traditional U.S.-style anti-trust laws, but of restrictions on competition put in place by governments themselves.

Secondly, it is important to note that while the United States makes less use of marketing boards than does Canada, our neighbour seeks to achieve many of the same objectives through various price-support systems and other forms of subsidization. It is not difficult to show that while both systems of augmenting farm incomes entail economic costs, marketing boards are often less wasteful than the U.S. price-support methods. The important point here is that competition is a means, not an end: there may be instances in which the restriction of competition is socially beneficial or at least preferable to the available options.

Calculations aimed at measuring the degree of competition by reference to the degree of domestic concentration in any given industry can also be highly misleading. In a study undertaken for this Commission,³⁴ the mining and petroleum industry in the United States is judged, on this basis, to be 96 per cent effectively competitive, while the comparable figure for Canada is only 7 per cent. The study attributes some of this difference to the controls on Canadian crude oil and natural gas prices. It attributes the balance to the high level of concentration in the Canadian sector. It is difficult to believe, however, that a comparison of domestic sectors provides a true picture of the relative amounts of competition in the two countries. The fact of the matter is that the Canadian sector is extensively exposed to foreign competition at home and abroad.

If Canadian producers actually have some monopoly power, they may well exercise much of it in international markets, and this situation may be beneficial, on balance, to Canadians. The potash industry in Saskatchewan

provides an example that illustrates this possibility. The introduction of a rationing scheme and the subsequent consolidation of the industry under the leadership of the government-owned Potash Corporation of Saskatchewan may have resulted in higher returns on export sales than would have been realized in the absence of these measures. In this context, restrictions on competition benefit the economy, since they result in higher profits for Canadian producers and, perhaps, higher royalty incomes for Canadian governments.

In general, the issue is not whether governments should be more diligent in the pursuit of traditional anti-merger, anti-cartel policies. Governments often restrict competition; indeed, they are likely to be actively involved in any significant and enduring restriction of competition. Once this likelihood is recognized, we can ask the essential questions that follow:

- Which restrictions on competition are functional and should be preserved?
- What is the most effective method of eliminating the remaining restrictions on competition?

There are certain obvious functional restrictions on competition that should be maintained. No one would advocate allowing unrestricted entry into the Atlantic and Pacific fisheries, for example. Nor would anyone advocate completely free entry into some professions, although debate would arise about what the entry requirements should be and who should set them. Restrictions on competition in export markets might also be generally beneficial, even if they carried over, to some extent, into the domestic market. In most cases, however, suppression of competition is in the interest of only a particular group, and not in the interest of the economy as a whole. The question, then, becomes how best to promote, maintain or re-establish competition. The two most important means of promoting competition are:

- Trade liberalization
- Elimination of the regulatory restrictions on price, output and entry that apply to certain industries.

In those sectors of the economy whose goods and services flow freely across national borders, international competition is usually all that is required to ensure that domestic markets are competitive. In these sectors, there is little need for public policy to restrict mergers of domestic companies, concentration within particular domestic industries, or co-operative arrangements among domestic suppliers. Even a well-conceived and effectively administered competition policy is a poor substitute for exposure of domestic industry to the winds of global competition.

Competition policy in many market economies has come to reflect the thesis that the economic benefits of efficient large-scale production will often more than offset the economic costs associated with the increase in market power that is usually inherent in the development of economies of scale. In a small economy, increases in the scale of output are certain to produce net economic benefits when they occur in sectors that are subject to open international competition. It is hard to over-emphasize the central role of

freer trade as a force for increased domestic competition. In Canada, the number of combines cases in which removal of trade barriers would have eliminated alleged anti-competitive activities is legion.

The second important condition for greater domestic competition is the elimination of regulatory restrictions on prices, output and entry. Where these restrictions are removed, the possibility of competition from new entrants serves to discipline market participants. Recent theoretical work in industrial organization testifies to the power of potential competition to ensure both competitive pricing and efficient production, even in markets in which there are only a few firms. In Canada, the financial, transportation and professional-service sectors are obvious candidates for partial deregulation of this sort.

Let us now consider competition policy in relation to those areas of the economy that are not subject to direct competition from abroad, either because of their inherent nature (such as construction), or because foreign competition would conflict with other public objectives (such as the protection of communications media for cultural and social reasons). Competition-policy issues also arise where barriers to the entry of potential competitors into an industry (other than the barriers imposed by regulation) are exceptionally high.

Competition policy has traditionally focused on mergers that could be considered to have adverse economic consequences. The present Combines Investigation Act, for example, makes it a criminal offence to engage in a merger "whereby competition . . . is or is likely to be lessened to the detriment or against the interest of the public, whether consumers, producers or others."³⁵ While this provision, like similar restrictions that applied in earlier years, has proved to be almost totally ineffectual, there is a growing body of opinion that the whole thrust of the policy is misdirected. Since the Economic Council of Canada issued its report on competition policy in 1969,³⁶ the view has developed that questions relating to mergers should be removed from the sphere of criminal law and be considered on their economic merits by an administrative tribunal as a matter of civil law.

Successive proposals put forward during the 1970s to implement this new approach encountered stiff opposition from the business community, which objected to the extent of the proposed law's application, the discretionary power it would give to the members of the tribunal, the uncertainty it would produce, and other matters as well. Amendments put before Parliament in mid-1984, which were never enacted, would have sought to reduce uncertainty by providing for the courts to adjudicate merger cases on the basis of a fairly simple set of criteria that would have left little or no room for exercising judgement about the economic costs and benefits of a proposed merger.

When the reform measures were first proposed, a number of observers assumed that it would not be difficult for a competent tribunal to distinguish between mergers that would serve the public interest by increasing the efficiency of the economy—a benefit that would outweigh the possible cost of reduced competition in the market-place, which might in any case be avoided

by other means, such as tariff reductions — and mergers that would serve only the interests of the participating parties. Over time, however, most observers have come to a better appreciation of the problems involved in developing adequate criteria for determining which mergers should be approved and which rejected.

Horizontal mergers, involving firms that already serve essentially the same market, should be the easiest to evaluate. In all likelihood, the great majority of horizontal mergers considered by an administrative tribunal would be approved with little difficulty if competition could be maintained by the inflow of goods or services from abroad. Even in industries where international competition was non-existent and the barriers to entry of potential domestic competitors were high, mergers would probably be approved if they seemed certain to increase economic efficiency significantly.

None of the legislative amendments put forward over the past several years proposes that conglomerate mergers — that is, mergers which involve companies operating in unrelated markets — should be subject to review either by the courts or by an administrative tribunal. Vertical mergers, which involve firms that operate in different sectors of an integrated supply chain (the merger of a food processing company with a major food retailer, for example), would almost certainly be subject to review, but adequate criteria for determining which of these mergers are in the public interest have never, to our knowledge, been developed. The basic problem is that market power can be defined only in relation to a particular market, but vertical mergers involve creating an entity that operates across several markets. Thus it is difficult to determine whether or not vertical integration by a firm occupying a dominant market position will be economically beneficial.

The reform proposals put forward over the past several years have also sought to remove the provisions of the Combines Act that treat monopolistic behaviour detrimental to the public interest as a criminal offence. Again, earlier proposals provided for such cases to be considered by an administrative tribunal, while the amendments put forward in 1984 would have referred such issues to the courts for consideration as a matter of civil law.

We Commissioners have already emphasized our conviction that whenever possible, Canada should rely on international trade to ensure the maintenance of dynamic competition in the domestic market-place. Canada should also seek to expand significantly the boundaries of competition in industries where that boundary is now restricted by regulation. In other areas of the economy, however, policy instruments should be available that will maintain as much competition among domestic suppliers of goods and services as is practical in economic terms. To achieve this objective would both serve the interests of consumers and place competitive restraints on the costs of inputs required by Canadian companies engaged in competition with foreign firms, at home and abroad.

In our judgement, the vast majority of corporate mergers that are concluded in response to the dynamics of the market-place should not be of concern from the perspective of public policy, particularly not where the inflow of trade from abroad can be relied on to maintain a healthy degree of competition. At the same time, however, a modern nation with an open

market economy should have available to it, under civil law, the means to prohibit horizontal or vertical mergers that are contrary to the public interest. By the same token, we believe that means should also be available for dealing on a civil-law basis with flagrant abuses of monopolistic power. Such an abuse might occur, for example, where a firm that occupies a dominant position in the market-place sells a product at an exceptionally low price in an effort to drive an emerging competitor out of business.

Observers who accept the need for reform in the regulation of mergers and monopolistic behaviour are generally divided into two groups: those who believe that these matters should be subject to consideration by an administrative tribunal with a right of appeal to the courts only on matters of law, jurisdiction and natural justice, and those who believe that the same matters should be adjudicated by the courts alone. Those who favour the intervention of an administrative tribunal, such as the present Restrictive Trade Practices Commission, argue that only a body of this kind could exercise the economic judgement required to determine whether a particular instance of corporate behaviour was detrimental to the public interest. Those who oppose adjudication by such a tribunal and favour the use of the courts do so precisely because of the freedom the former approach would provide for the exercise of discretion. Such an approach, they contend, would lend itself to arbitrariness and uncertainty.

As Commissioners indicated earlier, we are well aware of the difficulty of developing criteria for determining whether or not certain types of mergers serve the public interest. We also recognize the difficulty of distinguishing between corporate behaviour that is abusive and predatory in its intent and effect, and behaviour that is innocent in intent and in keeping with acceptable competitive practices. Because it is so difficult to make such distinctions, we conclude that it would be better to call on an administrative tribunal to exercise its best economic judgement in the resolution of merger and monopoly cases than to fall back on adjudication by the courts, which are quite unequipped to exercise economic judgement.

We must also emphasize our view that the proposed administrative tribunal should review mergers, alleged monopolistic behaviour, and related matters such as specialization agreements aimed at industrial rationalization only if they appear to offer a serious threat to competition in the domestic market. While the tribunal must be able to exercise its judgement on the basis of the circumstances surrounding each case brought before it, the law and the regulations under which the tribunal is created should carefully define the tribunal's mandate and provide clear guidelines on the manner in which it is to carry out its proceedings.

A study undertaken for this Commission³⁷ analyses certain types of restrictions on competition that may be imposed along the vertical chain of supply, including territorial restrictions on sales, exclusive dealing and tied-selling provisions, and resale-price maintenance. Since 1975, the first three forms of restriction have been subject to review by the Restrictive Trade Practices Commission, which has various remedies at its command if it concludes that such practices substantially reduce competition in the market-place. In 1951, Parliament made it illegal for manufacturers or wholesalers to

require a retailer to sell a product at a minimum price, although both groups were left free to "suggest" a resale price. Enforcement of this ban against resale-price maintenance has been a major activity of combines authorities over the past three decades. The study undertaken for this Commission contends that there are circumstances in which resale-price maintenance could, in fact, provide significant economic benefits. While Commissioners are not in a position to reach any conclusion on this issue, we do recommend a review of the provision making it illegal in any circumstances to require compliance with resale prices. It might be determined that resale-price maintenance should be illegal only when its detrimental effects on competition demonstrably outweigh its benefits. Alternatively, resale-price maintenance could be made a matter for review by an administrative tribunal, just as exclusive dealing and tied selling are now reviewed by the Restrictive Trade Practices Commission.

For some years, the laws against conspiracies to restrict competition through such means as price-fixing and market-sharing arrangements operated reasonably effectively in achieving their limited purpose. However, recent decisions of the Supreme Court of Canada appear to have undermined the effectiveness of those provisions by increasing the burden on the Crown to prove the intent of the alleged conspirators and the adverse economic effect of their action. In our view, it is important that the law should be amended as necessary to remove these impediments to the Crown.

We agree with the conclusion of the Royal Commission on Corporate Concentration that mergers and acquisitions involving major conglomerates should be dealt with on an individual basis by the federal government and Parliament. As that Commission pointed out in its 1978 report, the decision to prevent a merger is essentially political in nature:

*The attempted Power-Argus merger was important, not because of its potential effect on competition within industries (which we think would have been minor) but because the prominence of the parties in the economy made their actions significant to the public. Transactions this spectacular will always demand inquiry. We think that conglomerate mergers of this kind should first be analyzed under the competition law, but if (as in Power-Argus) there are no significant competitive implications, or none that could not be dealt with under the competition law, there may still be overriding reasons of public policy that will compel intervention by the state. We do not think it is possible to establish in advance legislative criteria by which unique cases like a Power-Argus merger can be assessed. If the state intervenes to prevent or dissolve a merger like Power-Argus, the decision to do so must be a political one, to be taken by government and Parliament in the light of the circumstances as they see them at the time.*³⁸

In essence, the approach taken here leaves the central role of ensuring competitive behaviour to be controlled by the international market-place and the threat of entry of competing interests. It minimizes government manipulation of the structure of domestic industry. While this approach is not in line with the U.S. tradition, it is in keeping with past Canadian practice, certain more recent trends in the United States, and actual practice in most

other industrialized countries. Another study³⁹ made for this Commission suggests that while most industrial countries have affirmed their support for an effective competition policy, they have not practised what they have preached. Quite simply, while such countries have broadly similar competition provisions on the statute books, vigorous enforcement is the exception rather than the rule.

One factor in this lack of enforcement in most industrial countries—a factor that will cause problems for even a limited competition policy in Canada—is the use of the so-called “strategic” or “targeting” approach to industrial policy, in which governments support domestic firms engaged in high-growth, high-barrier-to-entry activities, in the hope of obtaining a world-wide trade advantage. A major study prepared for this Commission notes that in a small country, targeting is almost certain to guarantee control of the domestic market for the chosen firm.⁴⁰ The essence of the targeting approach is early entry and quick movement up the learning curve. The latter achievement is facilitated by the guarantee of a domestic-market base, which provides a context in which to build up volume and expert assistance. Thus, pursuit of this strategy means that a government will not only acquiesce in mergers and specialization agreements, but also actively prevent the erosion of the domestic market base of the chosen firm: that is, it intervenes to deter potential entrants. Competition, in short, would be suppressed.

An example of the tension existing between competition policy and the new industrial strategy is provided by the Bell Canada/Northern Telecom/Bell Northern Research vertical integration case, on which the Restrictive Trade Practices Commission recently reported.⁴¹ Competition-policy issues of a traditional nature were involved. A regulated monopoly, Bell Canada, owns a significant proportion of a telecommunications-equipment manufacturer, Northern Telecom, and both own Bell-Northern Research. The regulated monopoly might pay its captive supplier excessive prices and include these in its rate base.

Vertical links that extend to the final point of sale can be defended on the grounds of increased efficiency and, hence, lower costs. There are further efficiency gains to be made from taking advantage of new technologies developed within associated corporate entities. The central issue in the debate, however, was whether Northern Telecom could have achieved its considerable success in export markets if it had not enjoyed guaranteed access for its products to the substantial Bell Canada market.

The opponents in the debate were the Bureau of Competition Policy, which argued that competing suppliers should have unrestricted access to the Bell Canada market, and the Department of Communications, which maintained that the connection between Bell and Northern Telecom was desirable, since it sustained Canadian jobs in the telecommunications industry and promoted Canada’s “technological sovereignty”. The Department of Communications argued that all of Northern Telecom’s European and Far Eastern competitors had some form of preferential access to their domestic telecommunications utilities; consequently, Northern Telecom could not have achieved its considerable success in export markets if it had not enjoyed guaranteed access to the substantial Bell Canada market. The Restrictive Trade Practices

Commission (RTPC) found that Northern Telecom's preferential access to Bell Canada had not resulted in the latter's paying higher prices for equipment. The connection between the two companies, therefore, did not impose excessive costs on domestic users of their telecommunications services. This may have been true of the Bell-Northern relationship; in general, however, a firm that is guaranteed a domestic-market base would be expected to exploit it. Knowing this, should governments initiate, support, acquiesce in, or oppose market-guaranteeing measures?

The link between the uranium cartel, potash pro-rationing and preferential access to Bell Canada should be recognized. All the arrangements have involved restrictions on competition in which a government has been involved. Each may or may not be nationally beneficial. The question is whether domestic-market guarantees or other restrictions on domestic competition should be extended throughout the manufacturing sector (especially the technology-intensive segment) as an element of industrial policy.

One factor to be considered is the possibility that this strategy may be practical only if it can be hidden, since otherwise it invites retaliation. More fundamental is the question concerning the merits of targeting. In most cases, domestic-market guarantees involve significant economic costs. While such costs might be considered justified if they were more than offset by higher-than-usual profits subsequently earnable abroad, the prospects for such an outcome must be regarded as small.

While the Bell-Northern link may have contributed to the emergence of Northern as a major player in world markets – and may have done so without imposing costs on Bell Canada's customers – this fact does not imply that public policy should set out to duplicate this situation elsewhere. Commissioners' conclusion is that unless there are strongly compelling reasons, domestic competition should not be suppressed in order to achieve industrial strategy purposes.

Our assessment of the major competition-policy issues leads us to conclude that the role of the Director of Investigation and Research under the Combines Investigation Act should be recast. In future, the occupant of this office should be less concerned with mergers, monopolies and vertical restrictions imposed along the supply chain and more concerned with reform of the fundamental conditions that determine the state of competition in the Canadian economy. Such reform would involve opposition to demands for continued or increased tariff, quota or equivalent protection. It would involve efforts to dismantle regulatory restrictions on entry and output, including those imposed by professional associations and marketing boards. Finally, it would involve opposition to attempts to "guarantee" to a single producer access to the Canadian market or to a provincial market. While it is true that the Director has pursued these goals since the mid-1970s, Commissioners are suggesting that this activity be greatly intensified. Competition policy should also seek to ensure that the treatment of foreign investment in Canada is consistent with the maintenance of strong competition. Greater freedom of access to the Canadian market for foreign investment interests should help to increase the degree of competition in the Canadian economy.

The serious efforts made between 1971 and 1975 to reform Canada's competition law ran afoul of what one observer has described as a "swift, massive and overwhelmingly adverse" reaction from the business community.⁴² It is in the ultimate interests of all Canadians to try again to reform Canada's outmoded competition policy. In pursuit of this goal, it will be important to retain an existing feature of the Combines Investigation Act: the provisions allowing Canadian firms to co-operate in export markets, provided they do not reduce domestic competition. It will also be important to overcome a shortcoming in the present legislation: the apparent exemption of self-regulated professions (such as law and medicine) from the provisions of the act if their conduct is pursuant to authority delegated to them by provincial legislation.

In order better to formulate and administer appropriate competition policy, the government should consider requiring all large corporations and corporate groups—public and private, foreign-owned and Canadian-owned—to make available to the public information relevant to their operations. Given the relatively small size of Canada's domestic market, a high degree of concentration is necessary in certain industries if Canadian participants in these industries are to compete effectively against foreign enterprises at home and abroad. Yet a high degree of concentration may be considerably less acceptable in domestic industries that are largely sheltered from competition with foreign firms. Lack of domestic competition might make the goods and services produced by such industries excessively costly to Canadian firms which must buy from them. Consequently, these firms might find that their ability to compete against foreign firms is reduced. Given this situation, it is clearly important that Canadian competition policy be capable of responding to a variety of conditions and circumstances. The availability of extensive information concerning the functioning of all large-scale enterprises is a prerequisite for exercising a properly balanced competition policy.

Crown Corporations and Privatization

There have been a number of major acquisitions by such Crown corporations as the Potash Corporation of Saskatchewan and Petro-Canada. Share purchases by the Canada Development Corporation (CDC) and government-pension/fund managers such as the *Caisse de dépôt et placements du Québec* have created several new mixed enterprises. The limited data available indicate that government-equity holdings in all mixed enterprises constituted 7.5 per cent of the equity capital in Canada in 1981: a fivefold increase over 1972.

While government ownership of industry has increased in Canada, it is still not large either by European standards or by comparison with governments' industrial holdings in developing countries such as Brazil, Mexico or India. There are countries with much less government ownership than Canada: most notably Japan and the United States. There is little movement generally, however, away from government ownership, except in the United Kingdom. As is evident from Table 9-16, the British government has sold parts or all of

a large number of state enterprises to the private sector. To date, it has "privatized" or scheduled for "privatization" approximately 10 per cent of government-enterprise assets.⁴³

TABLE 9-16 The British Privatization Effort

The Privatization Program		
Year	Up for Sale	Amount (£M)
1979-80	5 per cent of BP	276
	25 per cent of ICL	37
	Shares in Suez Finance Company and miscellaneous	57
1980-81	50 per cent of Ferranti	55
	100 per cent of Fairey	22
	North Sea oil licences	195
	51 per cent of British Aerospace	43
	Miscellaneous and small NEB	91
1981-82	24 per cent of British Sugar	44
	50 per cent of Cable and Wireless	182
	100 per cent of Amersham International	64
	100 per cent of National Freight Consortium	5
	Miscellaneous plus Crown Agent and Forestry Commission land and property sales	199
1982-83	51 per cent of Britoil (first cash call)	334
	49 per cent of Associated British Ports	46
	BR hotels	35
	Sale of oil licences, oil stockpiles and miscellaneous	73
1983-84	Second cash call for Britoil	293
	7 per cent of BP	565
	25 per cent of Cable and Wireless	260
	Miscellaneous	132
Summer 1984	100 per cent of BR Sealink	66
	100 per cent of Jaguar	297
Autumn 1984	50 per cent of British Telecom (Payable 1984-86)	3 900
Scheduled for privatization before 1988		
	British Telecom (November 1984)	
	British Airways (1985)	
	British Airports Authority	
	British Steel (profitable parts)	
Approved in principle		
	Rolls Royce	
	British Leyland (esp. Land Rover, Unipart)	
	British Shipbuilders (Naval warship yards)	
	National Bus Company	
	Royal Ordnance Factories	

Source: Speech made by Professor Michael Littlechild to a Conference on Weaving a New Industrial Policy, sponsored by the Institute for Research on Public Policy, Toronto, February 1985.

In the light of the British example, we might ask whether Canada should follow suit. The unfavourable financial results experienced by a number of Canadian government enterprises add force to this question, as does the general perception that many Crown corporations are not sufficiently accountable to the government. Furthermore, privatization, deregulation and competition are related issues. We might note in passing that privatization can be more difficult to arrange than nationalization.

To determine whether a government enterprise should be privatized, we should first consider whether the enterprise serves as an effective instrument of public policy. In some instances, the answer will be obvious. The purpose of the Cape Breton Development Corporation (Devco) is to promote employment in the area through support to coal mining and other forms of industrial development. In other cases, the public-policy function may be less obvious; indeed, it may no longer exist. If a government enterprise is no longer serving a goal of public policy, then we might legitimately ask why it should not be privatized. In part at least, the answer is likely to depend on one's ideological view of whether government should be involved in a business enterprise except to serve a purpose of public policy. Commissioners are inclined to believe that the majority of Canadians would agree that government should not be involved except for pressing reasons of public policy.

Do the interests of public policy continue to justify the federal government's total or partial ownership of such corporations as Air Canada, Canadian National Railways, Telelobe, Eldorado Nuclear and the CDC? If we put ideology aside, the primary issue is whether privatization of such corporations would increase their efficiency. The available evidence suggests that private ownership of such corporations will probably not result in increased efficiency in most instances. Rather, it appears that by itself, privatization would produce little or no improvement in productivity.

However, private ownership of such enterprises could be salutary in other ways. A case in point involves the deregulation of the airline industry, which many consider cannot proceed very effectively without a significant change in the status of Air Canada. This change might involve the privatization of the airline to make it subject to the discipline of the capital markets and the removal of existing restrictions on competition from other companies, particularly CP Air.

A government enterprise may operate at a distinct and fundamental disadvantage in relation to its privately owned competitors. In these circumstances, privatization would increase efficiency and profitability. One such field might consist of high-technology, market-oriented industries in which public accountability and the resulting bureaucratic rigidity are incompatible with prompt and flexible responses to changing conditions and circumstances. The commercial aircraft business, in which the federal government is deeply involved through de Havilland and Canadair, may be a case in point.

Finally, privatization might increase the efficiency of government itself. Many observers think that government has become so large, so complex and so centralized that regardless of structural reforms, elected officials cannot manage it. While decentralization may provide at least a partial remedy, it

may be incompatible with the accountability requirements of public ownership. A former senior public servant has put the dilemma this way:

Besides the difficulty of making public enterprise compatible with international trading and financial policies, there are also real difficulties in making it compatible with our form of democratic government.

While this situation has a host of manifestations, its roots lie in four problems: the problem of conflict of interest, the problem of accountability, the problem of form and the problem of size.

The first problem stems from the fact that the more Ministers and high officials are responsible for actually running an enterprise in business, the more they tend to be in conflict of interest with the other duties of their offices. In making decisions on behalf of the enterprise, they are drawn to act either according to the norms of their official functions, which are not the norms of business, or according to the norms of business, which are not the norms required of them in their official functions. Either way they have powers and information not available to business.

This problem, compounded by the constraints on the time of Ministers and high officials, plus the fact that they are rarely trained in business much less in the actual enterprise involved, inevitably encourages the delegation of the enterprise to its administrators in a more or less autonomous manner. The result is the second problem, the problem of accountability.

The natural inclination of Parliament is to insist upon, and the natural inclination of those managing the enterprise is to assume, the greatest possible autonomy. At the same time, Parliamentarians set, the managers of public enterprise pay lip-service to, and Ministers and officials accept impossibly incongruous levels of responsibility. Government without responsibility risks tyranny; business without a clear chain-of-command risks bankruptcy; and this lack of accountability in public enterprise risks both.⁴⁴

Thus, while privatization may or may not lead to more efficient operations at the firm or market level, it might result in simpler and more efficient government.

Many Crown corporations have obvious public policy functions. They may, for example, provide employment in depressed regions and services such as transportation facilities, electricity or telecommunications, to various groups, at subsidized prices. Their public policy purpose, such as strengthening national unity, may be more abstract. These functions lead to another question: Could we achieve these public policy goals by other means? The federal government could provide jobs or investment in depressed regions, for example, by subsidizing private firms.

This is an instance where people often confuse means and ends. While the operation of Crown corporations provides one means of meeting the goals of public policy, it is rarely the only means. Where there are other ways to achieve the objective, this consideration may not significantly deter privatization. The privatization of Canadair and/or de Havilland, for example, would not necessarily put an end to the federal government's "presence" in the commercial aircraft industry. That government could provide subsidies for research and development or employment and

investment tax credits to the privatized companies. The question should always be: Can public policy goals be more effectively realized by means other than government ownership?

If a government enterprise no longer has a public policy function, or if other means are available to carry out its function, the federal government, in Commissioners' view, should at least consider privatization. This brings us to the question of how to transfer the government's interest to the private sector. To whom should the government sell a Crown corporation? As a general rule, it should not sell a Crown corporation to the corporation's largest competitor, particularly in industries with limited competition and difficult entry for other would-be competitors. The government might resolve this latter problem by reducing regulatory impediments to new entrants; potential competition might then allow the sale of a Crown corporation to one of its existing competitors.

There is also considerable concern in some quarters that foreign buyers might obtain control of a Crown corporation that is being offered for private ownership. In Commissioners' opinion, it would be an error to exclude foreigners from bidding for shares in such firms. In many cases, such a course would exclude firms that could use the assets of the corporation to best advantage and/or exclude all bidders but existing competitors.

Should the government offer for sale all or only part of its interest in a given corporation? The government might well get a better price if it sells its entire interest – though perhaps it should do so in stages. If it retains effective control, purchasers will know that the government can use the corporation for public policy purposes, perhaps at the expense of profits, and will discount their offer accordingly.

The creation of mixed enterprises from private enterprises causes similar problems. The purchase prices of shares will reflect the possibility of a government buy-in and subsequent use of the firm for public policy purposes. In effect, the possibility that any firm might be the target of a government buy-in raises the cost of equity capital for all firms. For this reason, there is great merit in a policy, such as that followed by the Alberta Heritage Fund, of restricting share purchases by government holding companies and pension-fund managers to 10 per cent of the equity in any company. This restriction would assuage fears of a government's purchasing controlling interest in hitherto private enterprises.

As this consideration suggests, the primary problem is not so much the creation of more mixed enterprises by partial privatization as it is the potential creation, in future, of more mixed enterprises by partial nationalization. Indeed, recent Canadian experience suggests that the first item on the agenda is not starting the process of privatization, but stopping the process of nationalization. Some governments have bailed out privately owned companies that have run into trouble by assuming government ownership. Analysis and experience may suggest that complete or partial ownership by government provides a better means of rescuing such companies than loan guarantees or outright subsidies, but this solution begs the question of whether governments should bail out such companies at all.

Thus, the main issue is not what type of firms Canada should sell, but what type of firms it should stop buying. If governments continue to intervene to “Canadianize”, to provide or maintain high-tech jobs or jobs in depressed regions, or to provide subsidized services of various kinds, we shall probably see much more, rather than less, government ownership. The value of these forms of intervention is very much open to question. Reducing the incidence of such examples of intervention would be the first and most important step in controlling the growth of government and mixed enterprise.

To re-examine the role of Crown corporations and the value of mixed public/private ownership of enterprises is a logical extension of reforming competition policy and the regulatory framework. Commissioners’ emphasis on increased competition to improve Canada’s productivity requires a much broader basis for competition policy, one that addresses all impediments to competition. Concerns about merger corporations and conglomerates have received undue attention, although these must continue to be addressed if, indeed, foreign competition does not act as a check to domestic concentration. Commissioners have noted that the regulatory framework is a frequent impediment to enhanced competition within Canada; for this and other reasons, we have suggested that deregulation—especially of regulatory planning—would be desirable. This undertaking would be useful, however, only if accompanied by some privatization of Crown corporations. It makes little sense to argue for extensive deregulation of the air transportation industry when Air Canada so dominates that industry. Governments should avoid continued nationalization of private assets, particularly in cases designed to bail out firms or industries in trouble. Other means should be examined to assist the transfer of resources to more productive uses.

Foreign Investment and the National Interest

Historically, opportunities for investment in Canada have usually called for more funds than Canadians could make available from their savings. Consequently, Canada has imported large amounts of foreign capital directly, in the form of foreign debt and equity capital (that is, through direct foreign investment). We have, in effect, also imported capital in the form of reinvested earnings by foreign-owned firms already established in our country. Both federal and provincial governments have encouraged capital inflows, as these funds allow the Canadian economy to achieve levels of industrial development not otherwise possible. At the same time, foreign investment has produced high levels of foreign ownership and control of certain sectors of the Canadian economy.

In the decades ahead, foreign capital and the new ideas and techniques that often accompany it can contribute to the growth and prosperity of our national and regional economies. Foreign investment, however, does require us to share control over our economic future with non-Canadians, who may sometimes hold values and aspirations that differ from our own. Moreover, the multi-national nature of most foreign-controlled enterprises makes such firms susceptible to the policy directives of foreign governments, which may be detrimental to Canadian interests. During the past two decades, many

Canadians have expressed heightened concern over the relatively high levels of foreign ownership in our manufacturing and resource industries, and both federal and provincial governments have responded with regulations and other policies designed either to limit foreign control or to mitigate its adverse consequences.⁴⁵

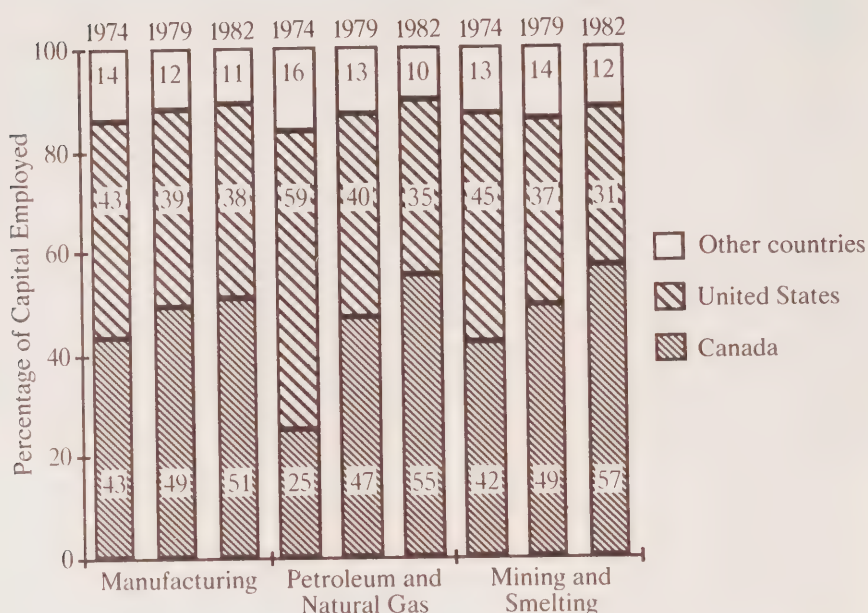
Foreign Investment Issues

While data on developments in the recent past provide an uncertain guide to the future, Commissioners would venture a number of observations about the prospective flows and the stock of foreign investment capital. First, the inward movement of foreign direct investment has decreased from the heights reached in the early 1960s. In fact, Canada's share of global direct foreign investment has fallen from 16 per cent in the early 1960s to 3 per cent in the late 1970s and then to a negative figure in the early 1980s. The National Energy Program alone resulted in an outflow of direct foreign investment of about \$6 billion as a result of the purchase of foreign-owned companies by Canadian interests.⁴⁶

An analysis limited to transnational capital flows, however, overlooks retained earnings as a source of new investment. Such reinvestment of profits by foreign-controlled enterprises has a cumulative effect on the stock of foreign investment. But to the extent that those firms retain such profits in Canada and reinvest them, they do not appear in data on the balance of payments. Thus, while the net flows of direct investment into Canada may have slowed and, in recent years, even turned negative, the stock of foreign investment in Canada has continued to rise. Foreign control of capital in Canadian industry remains high by international standards, even though, as Figure 9-3 shows, there were considerable declines in levels of foreign holdings in many domestic industries during the 1970s. In 1982, foreign companies held 49 per cent control in Canadian manufacturing, 45 per cent in petroleum and natural gas, 43 per cent in mining and smelting, and 26 per cent in all other industries, excluding agriculture and finance. Firms controlled in the United States own most of these large foreign holdings, and now account for about 80 per cent of the foreign direct investment in Canada.

Few other economies, apart from those of Australia, Belgium and Ireland, have as much as 40 per cent of their manufacturing capital in companies owned by non-residents; Italy, France, West Germany and the United Kingdom have economies that are between 20 per cent and 30 per cent foreign owned; Sweden and Norway are at or over 10 per cent by this measure; while the United States and Japan are approximately 5 per cent foreign owned. Moreover, Canada's intra-firm trade increased steadily during the 1970s: Canadian-based firms that own, or are owned by, foreign-based firms currently account for more than one-half of imports from the United States in a wide range of industries. Thus, while inward flows of foreign capital have been decreasing, Canada's stock of foreign investment remains high when compared with that of other developed nations, with the result that foreign multi-nationals are likely to continue to play an important role in Canada's economy.

FIGURE 9-3 Distribution of Control in Canadian Non-Financial Industry



Source: Statistics Canada, *Canada's International Investment Position 1979 and 1982*, Cat. No. 67-202 (Ottawa: Minister of Supply and Services Canada, 1984), p. 32.

As we saw earlier, outward flows of capital have significantly exceeded inward flows on a balance-of-payments basis over the past decade. The stock of Canadian direct investments abroad as a proportion of the stock of foreign direct investment in Canada rose from 25 per cent in 1974 to 54 per cent in 1983. If this trend continues, Canada will soon become a significant exporter of capital, although it will likely remain a net importer. As a result of its favourable current-account position of the last few years, Canada has been a moderate net exporter of capital from a balance-of-payments perspective. This would not be so, however, if we included in the balance reinvested earnings of foreign-owned subsidiaries. This trend toward increasing Canadian investment abroad suggests that our policy toward inward investment must take into account our national interest in securing equitable reciprocal treatment for Canadians investing abroad.

An appraisal of existing policies affecting foreign-controlled firms must take account of the advantages and disadvantages of foreign direct investment. Most general studies of the economic effects of foreign investment conclude that the benefits from inward capital flows are substantial and are likely to increase in the future. The benefits of foreign investment extend beyond the obvious advantages of access to foreign capital at highly competitive rates, as a supplement to domestic savings. Canadian

governments gain considerable revenue by taxing gains attributable to foreign investment: between 1.5 per cent and 2.5 per cent of gross national product.⁴⁷

Even more important, foreign investment is a major source of valuable technology, managerial “know-how” and entrepreneurship. Since innovative products, practices and concepts will be the key to Canada’s economic success, our policies toward foreign-controlled enterprises must avoid restrictions that impede the importation of these elements. In particular, equity ownership of an enterprise may give foreign innovators more incentive to apply fully their ideas and processes, and to enhance the quality of their products. If innovators have to license the use of their concepts to domestic firms that they do not control, either the licence fees will be much higher, or foreign innovators will take their ideas to other countries where they can pursue them on more advantageous terms.

Those who favour the regulation of foreign investment in Canada complain, first, that many foreign parent companies establish Canadian subsidiaries as branch plants meant exclusively to serve the domestic market. They contend that this intention leads to truncated industrial enterprises that are contrary to Canada’s national interest because they cannot try to break out of our own relatively small market by developing a dynamic market for exports abroad. Some analysts have asserted that Canadian subsidiaries of foreign parent firms import more, export less, and conduct fewer managerial and research activities in Canada than comparable Canadian-controlled businesses. In short, those favouring regulation of foreign-controlled firms have maintained that regulation would increase the dynamism, the technological progressiveness, and the export capacity of Canadian industry.

In fact, however, little evidence links extensive foreign control and deficiencies in Canada’s industrial performance. For example, while domestically controlled manufacturing firms may spend more on research and development than their foreign-controlled counterparts, the latter tend to have higher productivity. Foreign-controlled firms tend to import more goods than domestic firms, perhaps because suitable “inputs”, or components, are not available from Canadian sources of supply or because Canadian inputs are not competitive with imports in price or quality. Thus there may be more logical explanations for Canada’s truncated industrial structure than foreign ownership. The National Policy of 1879 and the continuing use of protection since then, the relatively small size of the domestic market, and the tariff and non-tariff barriers created by our major trading partners have all contributed significantly to our current industrial problems. Moreover, both foreign and domestic investors appear to have responded in similar ways to the conditions and circumstances prevailing at home and abroad.

A second argument for regulating foreign-controlled firms arises from the difficulties that national governments sometimes encounter when they seek to influence the behaviour of foreign multi-national enterprises. Firms that conduct the majority of their business activities outside Canada are likely to be more responsive to the general policies or specific directives of foreign governments than are firms based in Canada. Moreover, Canadian-controlled businesses may be more receptive than foreign-owned firms to public-policy initiatives to strengthen cultural autonomy and preserve national security.

American tax and regulatory policies affect the business decisions of U.S.-owned multi-nationals operating in Canada. During the past two decades, many foreign—usually U.S.-owned—multi-nationals in Canada have had to choose between the competing policy demands of two national governments. Disputes have involved trade restrictions imposed by the U.S. government on the trade of U.S.-owned subsidiaries in Canada for national security reasons; the attempted extraterritorial application of U.S. anti-trust and other regulatory laws; and American tax laws that encourage multi-nationals to repatriate their foreign-source income and to expand their production in the United States, rather than increase the size of their operations in this country. While it is easy to exaggerate the economic significance of these bilateral conflicts, their relative frequency and their potential for causing serious friction in Canada-U.S. relations suggest the need to establish regulatory machinery to manage these disputes in future.

A third argument for regulation of foreign investment is that foreign multi-nationals often restrict the authority of their Canadian subsidiaries to export or to experiment with innovative techniques. There is little authoritative evidence to support this claim. To the extent that the claim is valid, the national orientation of parent-company managers or the short-sightedness and inertia of large and complex corporate bureaucracies may be to blame. It is, of course, difficult to determine the motives of management in such situations. For example, there is some hearsay evidence that foreign-controlled firms in the manufacturing and natural resource sectors tend to favour established suppliers located in their home countries over Canadian firms offering goods of comparable quality at competitive prices. Similarly, the managers of a multi-national parent firm may resist proposals for providing its Canadian subsidiary with a world product mandate (a mandate to produce particular products as the sole corporate source of supply for world markets) merely because they stand to gain by maintaining control over all aspects of the firm's management. In the light of these potential conflicts of interest, some form of government regulation would seem reasonable.

This Commission believes that the same tax and regulatory policies applicable to domestic firms should generally govern foreign-controlled firms, except in sectors where cultural or national-security interests predominate. This principle of national treatment or non-discrimination is emerging as a customary rule of public international law, and Canada has recognized it through its formal assent, in 1976, to the Organization for Economic Co-operation and Development's Declaration on International Investment and Multinational Enterprises. The OECD convention recognizes that a commitment to equal treatment for foreign and domestic investors is fully consistent with the maintenance of selective regulatory instruments to deal with situations where foreign-controlled firms take major business decisions averse to national interests. Moreover, the convention authorizes the prior screening of foreign investors and the imposition of special conditions, such as performance undertakings by a foreign-controlled firm taking over an existing firm or setting up a new business. The Foreign Investment Review Act, which the federal government has replaced by the Investment Canada Act, sharply

reducing government intervention in foreign investment, is broadly congruent with the selective case-by-case approach to regulatory intervention endorsed by the OECD convention.

The provisions of the General Agreement on Tariffs and Trade (GATT) also constrain Canada. In the early 1980s, the United States raised objections to local procurement requirements and export-performance requirements that Canada's Foreign Investment Review Agency (FIRA) was asking foreign investors to meet. The U.S. Administration believed that these rules were contrary to the national-treatment provision of the GATT: that is to say, the Canadian government did not make the same requirements of Canadian firms investing in Canada. The GATT formed a panel to assist the two countries to resolve the dispute; it found that the "local content" undertakings secured by FIRA during the course of its negotiations with foreign investors violated Canada's GATT undertaking not to discriminate against imported products. Canada agreed to modify its administrative practices to comply with the panel's ruling, which the United States accepted as a resolution of the dispute.

Policies Affecting Foreign Investors

In testimony before this Commission, in May 1984, one intervenor succinctly described some of the main issues confronting Canada with respect to foreign investment:

In view of the direction that international trade is taking [and of] its importance, Canadians are exposed more and more to foreign influence, and most of them are ready to see a number of foreign firms enter [Canada] to make a contribution here. It is certain that how these firms are treated must depend on what they do, not who they are, and that they must definitely not be favoured by import incentives that are not granted to our own domestic business concerns. We must keep [our doors] open, and that requires important changes in certain of our present philosophies, both provincial and federal.

(Guy St-Pierre, Transcript, Montreal, May 31, 1984 [vol. 2], pp. 351-52.)

Two types of regulation are currently employed to control foreign direct investment. First, the government completely or partly closes certain key sectors of the Canadian economy to foreign-controlled firms or allows them to enter and do business on terms less advantageous than those accorded to domestically controlled firms. Secondly, in 1973, Parliament passed the Foreign Investment Review Act, which the government replaced with the Investment Canada Act in 1985. Currently, foreign-controlled firms seeking to take over a Canadian firm, above a threshold level, or to establish a new business in Canada, must obtain prior approval from the federal Cabinet. A brief review of these two types of policies should provide a basis for considering the appropriate design for future regulations aimed at foreign-owned enterprises.

Both federal and provincial laws designate key economic sectors and formally reserve them for firms controlled by Canadian residents. We have

seen several of the reasons for regulation. There is a widely perceived need to safeguard our cultural and political autonomy: hence reservation of broadcasting and newspaper publishing for Canadians. Only Canadian-controlled firms may harvest or exploit some types of natural resources. For example, foreign-controlled firms are not eligible to receive commercial fishing licences or leases, or licences to engage in uranium mining. Canadians are to obtain the maximum possible benefit from the exploitation of scarce resources that all citizens own. It is difficult, also, to enforce compliance with detailed regulations governing Canadian operations by resource firms based in foreign countries. Difficulties in ensuring compliance with consumer protection and other regulations or more broadly conceived views of the national interest have led to federal and/or provincial legislation restricting foreign investment in such areas as transportation, communications, insurance and trust operations.

Key-sector regulations also require foreign-owned firms operating in certain industries to compete with domestic firms under special conditions or restrictions. Federal banking law limits the share of the Canadian market that foreign-owned banks may hold. Federal energy laws enacted as part of the National Energy Program of 1980 provided Canadian-controlled energy companies with more favourable regulatory treatment in exploration grants than that accorded their foreign-owned rivals. The government defended its discriminatory treatment of foreign-based banks and petroleum companies on the grounds that exceptional national interests justified retaining Canadian control over the development of these key sectors. To some extent, these restrictions are transitional measures: Parliament has progressively liberalized the market-share limits applicable to banking in recent years. In addition, Ottawa intended the differential incentive measures in the energy sector to encourage foreign-based firms, which had traditionally controlled over 80 per cent of our domestic oil and gas industry, to increase their levels of Canadian equity ownership. In early 1985, the government announced the phasing out of these discriminatory exploration grants.

Closing a sector or type of activity to foreign investors or buying out or eliminating controlling interests in foreign-owned firms is the strongest form of regulatory action that a country can take. Such action depends on the assumption that the potential costs of foreign control clearly outweigh the potential benefits. In other words, this approach recognizes no trade-off between the advantages of domestic ownership and the economic gains that might accrue from the operation of foreign-owned enterprises. A strictly preventive approach to foreign investment might also provide unjustified protection to domestically owned firms and reduce those firms' incentives to improve their competitive performance. Because of these disadvantages, the government should close sectors only to defend compelling national interests. Some existing controls on service and natural resource industries may not meet such a standard. The government will probably review these measures, in any event, as bilateral and multilateral negotiations to liberalize trade in services will almost inevitably confront their use.

The Foreign Investment Review Act established a prior-screening procedure for foreign-controlled firms. Under this legislation, expert staff

review all major foreign investments which involve an effective controlling interest. A detailed cost-benefit analysis of the proposed investment determines whether the establishment of the enterprise would confer "significant benefits" on Canada in the light of five rather vague statutory criteria, which identify such factors as job creation, technological innovation and export performance. The staff often negotiates with foreign investors to secure performance pledges designed to make the firm's proposed activities more beneficial to Canadians. These undertakings outline the business objectives of foreign investors and often include specific commitments concerning their likely purchases of goods and services from domestic suppliers, their anticipated export sales, and other probable benefits to Canada deriving from their investment. The staff does not exercise any official decision-making authority, but its recommendations have been highly influential in Cabinet decisions on applications. Since 1973, when the act establishing FIRA became law, the Cabinet has rejected only about 7 per cent of the foreign-investment proposals reviewed by FIRA, but critics have noted that this does not take account of the unknown number of discouraged investors who never applied.

On the strength of submissions that Commissioners received, of testimony put forward during our public hearings, and of analysis provided by our own research program, we believe that the FIRA process has increased the sensitivity of foreign investors to Canadian social values and economic goals. (For reasons explained below, we support some of the modifications in the present system set forth in the proposed Investment Canada Act.) FIRA's formal review procedure has encouraged pragmatic dialogue between public officials and foreign investors, and has given clear advance notice of Canada's standards of good corporate citizenship.

Commissioners believe, also, that recent public debates about FIRA have tended to exaggerate its coercive or restrictive effect. This misconception is primarily attributable to the strict ban on public disclosure of concrete information concerning FIRA applications, including the reasons for the Cabinet's disposition of these cases. Although the government has periodically issued policy guidelines governing FIRA applications, these statements of general principle have been a poor substitute for disclosure of the Cabinet's reasons for particular decisions, including those that led to FIRA recommendations. While the secrecy of the existing process may strengthen the bargaining position of FIRA staff in negotiating with foreign investors, it also risks discouraging desirable foreign firms from applying for approval of potentially productive enterprises.

Commissioners believe, moreover, that the government's failure to disclose the reasons for its past decisions has undermined political accountability in the FIRA process, and that reforms to clarify that process would also improve the quality of public debate on foreign-investment policies. There must, of course, be reasonable limits on disclosure to protect the proprietary interests and commercial secrets of FIRA applicants. These problems, however, arise in many fields of economic regulation, and Canadian regulatory agencies have evolved sophisticated procedures to protect the confidentiality of legitimate interests. As a means of overcoming or minimizing some of these problems,

we recommend the creation of a quasi-judicial administrative tribunal to replace the existing Foreign Investment Review Agency and to assume the decision-making tasks currently assigned to the minister responsible for the agency and to the Cabinet. The main advantage of the proposed tribunal would be its ability to employ public hearings and to provide written reasons for government action.

In December 1984, the Canadian government tabled draft legislation in the form of Bill C-15 that proposed several significant changes in the existing process. First, foreign investments aimed at creating new businesses in Canada will no longer be subject to regulation, except when their operations may adversely affect certain Canadian cultural activities. Secondly, there will be reviews of foreign take-overs of existing Canadian firms, but applicants will no longer have to prove that their proposed investment will result in "significant benefits" to Canada. Proof of "net benefit" to Canadian economic development will be sufficient to secure approval for take-overs. Thirdly, a new agency known as Investment Canada will replace FIRA. Fourthly, Bill C-15 would make reviews applicable only to direct take-overs of firms with assets in excess of \$5 million. (Under the existing legislation, all foreign direct investments involving businesses with assets of \$250 000 or more are subject to regulatory scrutiny.) There would also be review of indirect acquisitions involving investments of \$150 million or more. Commissioners endorse the government's proposals for scaling down the scope of regulation and lightening the burden on foreign investors of demonstrating that their business projects will be beneficial to Canadians. In view of the intense global competition to acquire new investment and new technology—and of Canada's comparatively poor performance in attracting direct foreign investment during the past decade—these proposed changes constitute a move in the right direction.

Just as Commissioners pointed earlier to the need for a more transparent decision-making procedure, we consider that the principal drawback to Bill C-15 is that it moves the final decision on foreign take-overs from the Cabinet to a single minister. At least, when the decision is subject to approval by the Cabinet as a whole, other departments have an opportunity to scrutinize the proposal, and the central agencies of government also have a chance to raise issues of public policy. While the Cabinet is too busy to examine all proposed take-overs, to assign exclusive decision-making powers to a single minister creates a substantial risk of arbitrary action.

We Commissioners base our preference for a quasi-judicial tribunal to review foreign investment primarily on the need for public proceedings and full public disclosure. Non-government intervenors should have a chance to argue the issues in public. Moreover, the tribunal should publish a report that sets out the economic, or other, policy reasons for its actions. In the past, the government claimed that the secrecy surrounding foreign-investment applications prevented disclosure of valuable proprietary information to existing or future business rivals. While we recognize the need for restricting access to sensitive information, these protective measures can be compatible with public proceedings and a general presumption in favour of full

disclosure. Existing regulatory bodies, such as the Anti-Dumping Tribunal, encounter similar problems and have formulated procedures to protect legitimate commercial interests.

In addition, the foreign-investment agency should develop rules of procedure to avoid undue delay in the screening procedures. Perhaps it could usefully adopt a procedure whereby a case would automatically receive approval if the tribunal had not passed judgement within a specified period or had not notified the applicant of a need for delay.

In reviewing future foreign take-overs of Canadian-owned firms, the new agency, Investment Canada, should emphasize the likely consequences of the merger for the cost efficiency and technological progressiveness of the domestic industry. FIRA cases have too often neglected the vitality or intensity of competitive rivalry among both foreign and domestic firms in the many Canadian industries with relatively high levels of foreign participation. The review agency should consider whether a large multi-national may be attempting, through a firm that it controls, to secure an "undue" or excessive position of ownership in the domestic industry. The courts responsible for interpreting the Combines Investigation Act have found it difficult to decide the precise meaning of undue concentration or lessening of competition. Unconstrained by the limitations of criminal law, our proposed quasi-judicial tribunal would possess the requisite specialized knowledge to assess the probable impact of the foreign take-over on competition and other relevant aspects of industrial performance.

Since Commissioners recommend that the new administering authority analyse the competitive and technological conditions surrounding proposed foreign take-overs, it is desirable to raise the threshold for reviewability above the \$5 million in assets proposed in Bill C-15. We propose a threshold of \$50 million in assets. This modification would focus scarce enforcement resources on the larger and more critical take-overs. We endorse the government's proposal under Bill C-15 not to scrutinize new investments by foreign owners: the anti-competitive effect of these investments on the domestic industry is likely to be much smaller because, unlike take-overs, they increase the number of independent rivals competing in the market. Nevertheless, the government should monitor the effect of this exemption on competition in the Canadian economy generally.

In the future, the take-over/review process should exert a positive influence over the post-entry performance of foreign-controlled firms in Canada. One means of doing so would be through the reporting requirement that Commissioners propose for Canadian directors. Since review precedes actual entry by the foreign investor, its accuracy and effectiveness depend on forecasts and speculative assumptions concerning future economic conditions. Undertakings concerning future performance are invariably conditional on the accuracy of such forecasts and assumptions, and these economic uncertainties limit the reviewing agency's ability to insist on strict compliance. Moreover, the review process does not directly address the adverse consequences of foreign-government policies and informal directives aimed at Canadian subsidiaries or affiliates of multi-national enterprises. While the

Combines Investigation Act provides the federal Cabinet with broad powers to counter foreign policies and directives averse to Canadian interests, there has been no systematic monitoring or investigative effort.

Commissioners believe that the government should invest more resources in the collection and analysis of information that would permit the making of more accurate comparisons between the overall performances of foreign-controlled and domestic firms. The government should also impose standardized reporting requirements on all large firms, both foreign and domestic. We recommend that the directors of all major corporations, both domestic and foreign, be responsible for assessing and reporting on their firms' adherence to a formal code of conduct promulgated by the Cabinet. The federal government has set out a number of codes of conduct in the past, and these should serve as useful models. The 1976 OECD Declaration and its allied conventions recognized the legitimacy of general performance standards regarding, among other matters, technology transfer, export sales and the acquisition of goods and services from domestically owned suppliers.

Most major corporations in Canada now publish extensive annual and quarterly returns relating to their financial status and business activities, pursuant to company and securities laws. Commissioners recommend that in addition to fulfilling existing reporting obligations, all large Canadian and foreign-controlled firms (that is, those with assets of \$50 million or more) be required to disclose annually information relevant to the proposed code of conduct, such as R&D expenditures, purchases from affiliated firms, and exports to affiliates and to unrelated buyers. These annual returns should focus on a limited number of quantifiable measures sufficiently standardized to permit comparisons among groups of firms. An amendment to the Corporations and Labour Unions Returns Act would seem the most appropriate strategy for implementing the proposed reporting scheme.

The Canada Business Corporations Act requires that a majority of directors of a Canadian corporation be "resident Canadians", and most provincial company acts incorporate a similar requirement.⁴⁸ These federal and provincial company laws do not, however, impose any particular duties or requirements on Canadian directors to ensure that a Canadian, as compared to a foreign, viewpoint affects corporate decision making. Yet surely, Canadian directors should seek to reflect in corporate decisions their beliefs concerning the ambitions and interests of our national community. Commissioners believe that it would be desirable to amend existing company laws to make clear provision obliging Canadian directors to ensure that Canadian interests receive serious and sustained consideration in the making of all important corporate decisions. Legislation should require Canadian directors to file an annual report, which would accompany the informational return just described, setting out their corporation's efforts to promote the performance objectives identified in the proposed general code of conduct. Such a reporting obligation would permit public scrutiny of the extent to which directors have discharged their responsibility to reflect Canadian interests.

Adjustment Policies

As Commissioners have already emphasized, measures to assist Canadians to adjust to the relentless ongoing changes under way in our economy should form an important component of Canadian industrial policy. These changes—massive during the present century—are a vital and unavoidable part of the economy's dynamic response to innovative and traditional forces that have produced substantial growth in our output, employment and standard of living. New industries thrive and grow, and growing competition at home and abroad, as well as pressures created by technological change, drive out older industries or force them to change. Alternatively, an industry may continue to prosper, but technological advances may drastically reduce the numbers of workers it employs, as has happened in agriculture. For the people involved, the process of change can be extremely painful, and thus they may vehemently resist it. Indeed, change is a process that inevitably generates considerable uncertainties which, in turn, have economically adverse effects. There is, therefore, ample justification, on both economic and social grounds, for the institution of policies aimed at facilitating adjustment and easing the hardship of transformation for those who are involved.

Throughout most of 1984 and into early 1985, Britain was embroiled in a bitter and violent strike by coal miners over proposals put forward by the government-owned National Coal Board to close down 20 uneconomic pits and terminate 20 000 jobs. The steel riots in Paris in early 1979 over proposals to phase out steel production and related jobs in regions with obsolete plants precipitated a similar reaction to the prospects of economic change. Both events are in some ways reminiscent of Britain's early-nineteenth-century Luddite movement, which violently protested against unemployment caused by the introduction of new machinery in the textile industry. The similarity of worker concerns over the span of almost two centuries is striking.

From a purely economic perspective, the case for government involvement in the adjustment process is tightly circumscribed. The interests of the economy as a whole are best served by the rapid shift of capital, human and other resources out of areas that provide relatively low value in terms of output of goods and services, into new areas of higher value. In the absence of constraints, this process proceeds in accordance with the dictates of market forces as part of a never-ending pursuit of maximum profits and incomes. It is a process involving a form of economic Darwinism—the survival of the fittest—in which the market-place rewards or penalizes investment and other decisions.

In line with this concept is the view that private-sector participants, who have a strong vested interest in the outcome of the process, are far more likely than governments to identify and respond properly to market developments. Therefore an economist who accepts this point of view can say little in favour of government intervention to alleviate the consequence of private risk taking by the owners of financial or physical capital.

In the case of labour (that is, human resources), the economic and social perspective on adjustment is rather different. The operation of market forces, for example, might result in unduly low expenditures for general education and training. Companies cannot be sure that such expenditures will yield adequate returns in the form of qualified new employees, and individuals not only lack the means to finance their own education or training, but also find it difficult to borrow (without government assistance) against prospective future earnings.

Clearly government must ensure the availability of general education and training. For similar reasons, government could help workers to adjust to change by providing financial support for retraining and relocation. This, of course, is quite a different matter from governments' helping to sustain unproductive enterprises simply to maintain existing employment. To sustain unproductive enterprises only impedes adjustments that must eventually be made.

By helping workers to adjust to change, government might help to reduce resistance to the process of change itself. It might also be argued that society has a social and ethical obligation to share the burden of adjustment. This sharing may require more than merely retraining and/or relocating displaced workers; it may require compensating them for some of the private costs of adjustment, such as the loss of investment in a home.

The political perspective on this matter is quite different in Canada from what it is in many other countries. Regional or local concentrations of firms and workers in hard-pressed industrial sectors often generate strong political pressure on government to intervene in order to sustain the firm or firms involved and to maintain the jobs of the workers they employ. Such intervention frequently retards, rather than facilitates, the process of changes, but since the full cost of impeding the process of adjustment is often not readily apparent, it does not generate much opposition. Trade-protective measures, such as tariffs and quotas, have the political virtue of appeasing both management and labour, while the costs of such protection are spread widely throughout the economy over time.

Where these instruments are not available, political pressures will often compel governments to provide various forms of subsidies to specific firms in order to sustain output and employment. These subsidies also have the political virtues of appeasing investors and workers simultaneously. While the costs are more visible than trade-protection measures, they often can be partially disguised by such off-budget devices as loan guarantees or loans at below-market interest rates. By contrast, government expenditures for labour-adjustment programs, such as retraining, early retirement, severance payments and mobility allowances, entail highly visible costs, as well as a potentially high-cost political acknowledgement that a particular sector cannot or will not be shielded from the adverse effects of market forces.

The political process in this country, therefore, is likely to lead to the adoption of policies that in many respects are quite different from the approach that would be suggested by economic and social considerations alone. Instead of easing the costs of labour adjustment, governments are likely to favour policies that postpone or retard the adjustment process, with

concomitant reductions in national income and adverse effects on job creation over time. The effect of these policies has formerly been clearly evident in Canada, in the textile, clothing, footwear, shipbuilding and Nova Scotia coal-mining industries; all of these industries now face adjustment problems that are almost as large as, if not larger than, they have been at any time in the past, despite massive assistance through trade protection and firm subsidies.

The nature and seriousness of the policy dilemma is well illustrated by the textile industry. For 1979 alone, the cost to the economy per job saved by the protection through tariffs and quotas of the Canadian textile and clothing industry was estimated to be \$34 500,⁴⁹ while in the same year, the average income of Canadian textile workers was \$10 000. This suggests that if protection were removed and all Canadian textile workers lost their jobs as a result – an unlikely outcome – the money saved each year would be sufficient to provide income to those workers, amounting to two or even three times their real 1979 earnings for the remainder of the years they were of working age, and still offer some additional savings to benefit Canadian textile consumers in the form of lower prices.⁵⁰

Canadians are confronted with the challenge of devising policies that will facilitate, rather than retard, rapid economic adjustment, while at the same time providing generous assistance to the individuals most affected by change. Economic and ethical considerations require this conjunction of policies. The experience of Japan and West Germany in the post-war period suggests that a strong commitment to rapid adjustment is vital to a healthy economy, while the post-war experience of Britain suggests that the lack of such a commitment is a recipe for serious economic stagnation. The Japanese and West German experiences also suggest the importance of well-conceived adjustment policies to ease the costs of change, particularly for labour. Can we confer on our own political institutions the capacity to generate a similar mixture of policies?

The government must give a high priority to the development and implementation of public policies that will facilitate rapid adjustment. On both social and economic grounds, there are compelling reasons why government should adopt measures that will ease the problems of transition and cover a reasonable share of the costs of adjustment for those workers and their families who are caught up in the process of change. The institution of such policies and programs should, in turn, help to reduce governments' resistance to change.

Governments should not be diverted from adopting effective adjustment measures by the argument that in a recession they cannot be afforded, and that in times of economic growth they are unnecessary. Even in times of high unemployment, growing industries are often impeded by a lack of workers with particular skills. For example, a recent survey of 4012 establishments in Canada discovered that approximately half of the 1354 respondents reported hiring difficulties during 1977 to 1979, and 43 per cent anticipated shortages during the following five years. Conversely, in periods of rapid economic growth and low unemployment, there may still be some declining industries. Workers in such industries may have trouble finding new jobs either because

they lack the necessary skills or because of their reluctance to move to another area.

Policy makers must determine whether a particular sector is undergoing only a short-term slump, or whether it is in a long-term decline as a result of underlying economic forces. To determine which sectors of the economy will disappear (or be completely transformed, as has occurred in the agriculture sector over the last half century) is no easier than to forecast the sources of others. Canada's shipbuilding industry, for example, has been confronted by serious difficulties over a period of many years. Does it lack comparative international advantages, or are advantages in certain areas being obscured because of subsidies provided by foreign governments to their own shipbuilding industries? Conceivably, our shipbuilders could meet international competition in certain select areas if other nations would also abandon the granting of trade-distorting subsidies.

In the Cape Breton coal mining industry, the widely-accepted judgement at the end of the 1960s was that the industry was not viable and should be phased out. Following the sharp increase in world oil prices initiated by the Organization of Petroleum Exporting Countries (OPEC) beginning in 1973, coal prices began to rise substantially, and the coal industry has now expanded. Although coal prices have subsequently declined somewhat from their previous peak, it is difficult to predict the future of the industry in view of continuing uncertainty about the price and supply of Middle East oil, and of more guarded predictions about the prospects for nuclear power.

While the domestic textile industry has long been troubled, Canadian exports to the United States have grown significantly in recent years, and the introduction of technological advances that substitute capital for labour suggest that at least some elements of this industry are, or could become, internationally competitive. Within recent years, both the Canadian automobile and farm-machinery/manufacturing industries have faced severe economic difficulties, as have those in the United States, with which our industries are closely associated. In both countries, the farm-implement industry continues to face a severe slump. Is the problem confronting that industry cyclical in nature? Or is it indicative of a long-term structural decline? As a result of substantial cost-cutting economies, the introduction of models more closely suited to market demand, the economic upturn, and the imposition of quotas on Japanese vehicle imports, the Canadian and U.S. auto industries have experienced a strong recovery. Has the automotive industry recovered, or will it again encounter severe difficulties if protective quotas imposed on the import of Japanese vehicles are lifted? Is the recent lifting of U.S. quotas on Japanese vehicle imports sufficient to jeopardize the Canadian auto industry?

Difficult as these questions are for private sector decision makers intimately acquainted with an industry's problems and potential, they are even more difficult for public sector policy makers, who usually lack this detailed knowledge, and who are often confronted by representations from those involved that obscure the realities of the situation. Governments should exercise caution in implementing adjustment policies designed to have long-run structural effects. The goal should be to develop policies that minimize

the risk of major systematic errors in judgement. Flexibility, adaptability and reversibility are more easily attainable if decentralized judgements by those affected by an industry's future prospects dominate centralized public sector judgements. The provision of adjustment assistance to displaced workers, for example, leaves each individual free to determine what course to follow in seeking other employment opportunities.

Earlier in this section, we suggested that political forces would tend to invert policy requirements that appear to be dictated by economic and, to a lesser extent, social or ethical considerations. Political forces will tend to favour, in descending order, trade protection to preserve output and employment, individual subsidies to firms to enable them to maintain output and employment, and subsidies to labour to facilitate its mobility. Governments must find policy options that reduce the degree of conflict between policies dictated by good politics and those dictated by good economics and proper social concerns. We shall examine these policy options below.

Trade Policy

When important sectors of the economy face severe import pressures, benign acceptance by government is an unrealistic response. Affected workers and firms may demand various forms of relief: resort to unilateral escape clauses provided in international agreements, imposition of anti-dumping duties, or pressures on particular exporting countries to establish "voluntary" export quotas. Many countries have resorted to protection in recent years, a move that runs counter to the best interests of all nations. One means of restricting protectionism might be an international agreement tightly restricting such actions. The agreement could require that if a government imposes protection, it would have also to institute an adjustment strategy aimed at reducing capacity in the affected sector or at increasing its efficiency through restructuring.

To make institutional changes domestically could also prove beneficial. Governments could make information widely available about the expected costs and benefits of proposed protective measures. The Canadian Tariff Board, for example, could investigate and hold public hearings on proposed restrictions. In its report, the board could estimate the expected costs and benefits, express a judgement on the measures proposed, and recommend other means of assistance that might involve an alternative to trade protection. The government would, of course, be free to accept, reject or modify such recommendations, but the information provided, the submissions made during hearings, and the views of a responsible tribunal would provide an extensive base for judging the course of action adopted by political authorities. The agency charged with this responsibility should have a broad economic focus, as does the Tariff Board, not a specialized mission concerned with particular interests, such as the Textile and Clothing Board. The U.S. International Trade Commission and the Australian Industry Assistance Commission perform functions similar to those proposed.

To offset pressures from producers for protection, it might be desirable to provide financial assistance to consumer-interest groups. It might also be

desirable to alter the political dynamics that lead to adoption of policies that are opposed to the long-term economic interests of the nation. New laws governing the financing of political campaigns, for example, could reduce the dependence of political parties on contributions from producer interests, perhaps through providing electoral subsidies.

While the federal government will continue to protect particular sectors against the severe competition of foreign imports, at least for limited periods, we should consider what form this protection should take. To establish long-term quotas on imports from abroad is undesirable, as such quotas virtually guarantee domestic producers a share of the market, whether or not they take any steps to increase their competitiveness. A better course would be to establish a constant tariff duty. The costs of foreign competitors will probably decline, enabling a growing proportion of their product to surmount the tariff barrier. The result will be an orderly contraction in the market share of the domestic industry if that industry is unable to keep pace. An alternative would be gradually to reduce the amount of the tariff, as is the usual practice in implementing international trade-agreement reductions.

Firm Subsidies

If trade-protection measures were more constrained legally and politically, governments might attempt to preserve industry output and employment against stiff foreign competition by granting subsidies to specific firms. Such subsidies, however, tend to block or retard adjustment. Subsidies entail most of the same economic costs as a tariff because they often have a similar effect. In a well-functioning capital system, few shortcomings in the market—sometimes referred to as “market failure”—justify subsidies to declining sectors. Government assistance to modernize may be necessary to make an industry or firm internationally competitive, but an obsolete plant is often the result, rather than the cause, of loss of international competitiveness.⁵¹ Firms able to cover only variable costs must allow their fixed assets to run down, thus reducing their long-term capacity to remain efficient producers. If new fixed assets could produce an adequate return, the capital market would presumably provide the necessary funds. If the government proposes assistance to help a firm achieve long-run competitiveness and profitability, the public should be sceptical, for such assistance is normally dictated by a negative assessment on the part of the private capital market of the viability of the investment target.

Even the effectiveness of industrial subsidies in maintaining jobs is open to some question. To establish such a case, it is necessary to assume that a given number of jobs in a certain firm are of an incremental nature and, therefore, would not be maintained in the absence of a subsidy. Even if this is so, a subsidy to a specific firm will not serve to maintain employment unless its jobs are incremental in nature with respect to the industry as a whole. This would be so if no subsidy were paid to a failing firm, and if other companies in the industry failed to increase output and employment sufficiently to take up the slack caused by such a failure. Even in a situation where jobs are of an

incremental nature both in a specific firm and in the industry as a whole, the question that remains is whether they are incremental in the case of the economy as a whole. In other words, if no subsidy were paid, would there be a net reduction in the total number of jobs in the country? Subsidies use resources that might help to create a greater number of more productive jobs elsewhere in the economy. Subsidies to troubled firms in declining sectors often preserve the most marginal and least competitive companies; thus they work against the efficient restructuring of the economy and the creation of new, more enduring jobs.

If political pressures nevertheless dictate that subsidies will be granted to firms in declining sectors, to assist the strongest, not the weakest, firms would seem a superior strategy. Governments could assume some of the costs associated with mergers, consolidations and orderly reduction of physical capacity. Recent bail-outs of failing firms in Canada have overlooked such opportunities. Three farm-machinery companies in financial distress (Massey-Ferguson, Cooperative Implements, White Farm) have received substantial aid from the federal government, although firms and the industry as a whole have serious excess productive capacity. There appears to have been no attempt to facilitate mergers or otherwise rationalize production. A major trucking firm (Maislin Trucking) was bailed out (although it ultimately failed), despite excess capacity in the industry and possibilities of merger with other long-haul carriers with similar route networks. The bail-out of the Atlantic fish-processing companies, while industry wide in focus, still result in the maintenance of many inefficient branch processing plants.

If some firm-directed subsidies are politically unavoidable, they should take a form that minimizes the prospects of recurrent demands for assistance. Governments should attach conditions to the assistance, including orderly contraction of productive capacity or rationalization.

One danger inherent in this proposed approach is that the governments may make an erroneous judgement about the future of an industry. Conditional assistance could induce major structural changes predicated on erroneous projections of how the market will evolve, either because of poor judgement or on account of an unforeseeable change in circumstances at home or abroad. Perhaps governments could reduce this danger by leaving with the industry in question the initiative for making restructuring proposals, rather than imposing a centrally conceived blueprint solution. Moreover, as British and, to a lesser extent, French experience indicates, to induce mergers and consolidations courts the danger of assembling elaborate corporate umbrellas that mask the perpetuation of inefficient multi-branch operations. Orderly contraction and the reinforcement of points of strength in the industry should become the primary object of policy. The use of a buffer body, such as the Canadian Industrial Renewal Board, to implement policies marked by this industry-wide focus may enable political leaders to "distance" themselves from political interests demanding other forms of subsidy.

A further policy refinement would be to discourage the use of low-subsidy instruments that have little or no visibility. A tighter GATT Non-Tariff Barrier Code on Government Procurement could, for instance, require costing

of off-budget subsidies such as loan guarantees and the provision of loans at below-market interest rates. Inclusion of these costs in government-expenditure budgets and spending envelopes at the time that the assistance is provided would increase visibility and accountability.

Labour-Adjustment Policies

If the government accomplished these policy changes, political attention would shift to the adjustment costs faced by labour, which is where both economic and social analysis suggest placing the focus. Part V of this Report addresses in depth the key issues respecting labour-adjustment policies. The suggested reforms emphasize help to labour-force participants seeking jobs. Commissioners consider on-the-job training more beneficial than institutional training. Furthermore, suggested reforms to the Unemployment Insurance (UI) system would encourage workers to seek out remunerative and stable jobs as compared to those in which they are constantly subject to lay-offs.

An alternative approach that Commissioners have considered corresponds to the West German and Japanese systems of conditional unemployment-insurance benefits. After a period of unconditional benefits lasting, say, 16 weeks, the government could require a recipient to participate in a retraining program in order to continue to qualify for benefit payments. The assumption is that after a period of time, an unsuccessful job search indicates a need for different or up-graded skills. A significant portion of UI expenditures, therefore, would underwrite the costs of job retraining. Conditional unemployment-insurance benefits also minimize open-ended support to a labour-force participant. As with firm-specific subsidies, it is important that the recipient adopt some course of action that minimizes the prospects of recurrent demands for support.

Notwithstanding these supposed advantages, Commissioners prefer maintenance of an unconditional approach to unemployment insurance. This approach, in our view, is more consistent with reliance on individual judgement about future employment options or retraining. Our proposed reforms would encourage labour-force participants to be more active in exercising such judgements. Improved retraining and mobility programs would complement this approach.

To improve existing retraining and mobility policies, Commissioners put forward several suggestions. The federal government should require all larger employers to register job vacancies with Canada Employment Centres. This would help to overcome the serious problems arising from the lack of adequate information about such vacancies across the country, which, in turn, impairs the ability of the centres to fill vacancies with individuals who are unemployed or about to be laid off. The provision of more detailed data on specific occupations and systematic medium-term forecasts of prospective skill shortages would facilitate better matching of present or future unemployed persons with institutional or on-the-job retraining programs geared to meet their needs.

Government should remedy several shortcomings in present institutional training programs. These programs are often of too short duration to provide

significant higher-skills training; too few places are available for qualified and interested candidates; living allowances for trainees are inadequate, and student loans are not applicable to such programs; and federal-provincial financing arrangements give a largely exclusive right of participation in these programs to provincial educational institutions and generally exclude private sector training institutions, thus precluding more diversified judgements about future employment opportunities. Part V also recommends that more emphasis be placed on on-the-job training.

To facilitate the mobility of the labour force, governments should increase the assistance provided to workers who must move to jobs in new locations; this aid now covers only a part of direct costs. In addition, the Government of Canada should use part of the Unemployment Insurance savings generated by proposals outlined in Part V to assist adjustment by broadening early-retirement schemes for older workers (perhaps those between the ages of 60 and 65) as the French have done. At present, this approach eases adjustments in the textile, clothing, footwear and tanning industries. Moreover, federal and provincial governments should consider increasing the portability of private pension plans through requiring early vesting of employer contributions as a further means of increasing labour mobility. Governments might also require major employers to provide time for employees to participate in programs of skills up-grading. Commissioners elaborate on this proposal in Part V.

We Commissioners propose the adoption of these policies in the hope that they will facilitate the redeployment of labour from declining to expanding sectors of the economy, by easing the transition costs of individual workers involved in such shifts. In this respect, the effect of these policies is quite different from general UI programs or programs designed to provide extended unemployment benefits to specific sectors, such as the Canada Textile Adjustment program or the U.S. Trade Adjustment Assistance program. Indeed, many of these latter programs appear to retard, rather than promote, adjustment. The proposals that we recommend here would integrate social policy with economic policy much more fully; Japanese, West German, Scandinavian and, to a lesser extent, French experience suggests that such integration is pivotal to effective employment adjustment.

An important problem that we have not yet dealt with involves the costs to the many Canadians who are directly or indirectly dependent on declining industries in depressed communities. These costs are both financial and psychic, ranging from depreciation in the resale value of a home and increased taxes for municipal and other services to residents who remain behind, to the loss of social amenities. Given the complex politics of intervention, governments often use trade protection or subsidies to avoid facing up to such problems. They might best reconcile political and economic considerations by assisting those communities with the highest adjustment costs; the political costs of failing to intervene there are also likely to be high. Governments should generously subsidize any large-scale exit from a community of workers and their families. This assistance might include generous severance packages for older workers and compensation for the depreciation in the resale value of houses, for loss of social amenities and,

through assistance to municipalities, for higher per capita public service costs for those remaining behind in the community.

To concentrate resources on inducing people to leave severely distressed communities can help to limit budgetary expenditures. The Industrial and Labour Adjustment Program, recently terminated, had some of these features. This program designated twelve communities as distressed. However, it was temporary and modestly financed, and it focused excessively on providing financial assistance to firms to remain or to relocate in designated communities. Adjustment assistance to individuals overly stressed creation of temporary jobs in the designated communities. In short, the program appeared to embrace and confuse cyclical and structural concerns. Nonetheless, it suggests productive new policy directions.

A revised community/industry-adjustment program should be made a permanent feature of Canada's industrial policy. Adopting structural adjustment policies only in recessions, when resources are limited, is likely to be much less effective and more costly than adjustment policies directed to declining sectors in a generally more buoyant economic environment. Japanese legislation relating to structurally depressed industries exemplifies a longer-term perspective on adjustment in declining sectors.

In community/industry-adjustment programs, government must judge whether communities or sectors are in long-term decline. If, for example, three years ago, the federal and Ontario governments had designated the automobile industry and communities such as Windsor as distressed, and had induced a major exodus of labour, it is clear, with the benefit of hindsight, that they would have been making a serious mistake. This example suggests the wisdom of using extreme caution in applying radical policies to facilitate a major exodus from supposedly declining communities on the basis of short-term evidence of industrial difficulties.

Transportation, Communications Services and Other Infrastructure Support Services

Canada's vast continental land mass and sparse population has made transportation and communication facilities a political and social necessity, as well as a fundamental part of our economic foundation. Transportation and communication have increasingly become necessary complements of each other in some areas and competitors in others. Efficient inventory control in the manufacturing sector depends on both these sectors. Communication systems also vitally affect modern capital markets, enabling investment capital to move swiftly within the global village.

The transportation and communication infrastructure are both important industries in themselves and also vital to production in all other industries. This infrastructure also determines the extent to which we Canadians communicate with one another, and the way in which we define ourselves as a nation. Canadians in more remote locations are concerned with how southern or urban Canada manages its transportation and communication needs. Those who live in remote areas view these links as vital to their economy and their very definition of being Canadian.

Atlantic Canada has received heavy subsidization for many components of its transportation system. The long debate over the Crow's Nest Pass Freight rate (the Crow Rate) has historically underlined the importance of transportation to Western Canada. Central Canada's concerns include the upgrading of the St. Lawrence Seaway and the effect of U.S. deregulation on trucking and railway industries. While the East-West transportation and communications infrastructures have always been vital, they have—as has the Canadian economy as a whole—been in constant tension with the continental pull both of geography and of the economic strength of the U.S. economy. Approximately 40 per cent of the oil and gas Canadians consume flows through pipelines that pass through the United States. The St. Lawrence Seaway and the Great Lakes system are a shared marine asset. Significant portions of the business of Canadian railways, trucking companies and airlines are continental. The cross-border flow of tourists, and, hence, many large and small local economies, depend on the quality of several modes of transportation. Trade between Canada and the United States amounted to \$150 billion in 1984.

Transportation and communications issues are likely to be even more challenging in the future than they have been in the past. Several issues confront policy makers, including the need to respond to the deregulation of transportation in the United States in the rail, air and trucking sectors; the need to develop technologically sophisticated and environmentally safe transportation systems for frontier and offshore oil and gas development; the need to modernize the Western rail and grain-handling systems; the need to respect individual choice while maintaining our national identity, which may be threatened by increased access to American television programming through the use of satellite dishes and other technologies; and the need to deal with the potential growth of interlocking ownership among transportation and communications enterprises, including Crown and mixed public and private enterprises.

While it is essential for Canada to maintain a competitive and efficient transportation and communications system, Commissioners believe that policies governing these facilities must take account of a wide variety of economic and social goals. Basic changes to the system or new large-scale investments inevitably and necessarily raise major political considerations. Controversies over the building of the Canadian Pacific Railway (CPR), the formation of The Canadian National Railway (CNR), the Trans-Canada Pipeline, the St. Lawrence Seaway, the Alaska Highway Natural Gas Pipeline, the Crow rate, and airline deregulation testify to these realities.

The 1967 National Transportation Act is indicative of present dilemmas. At its most basic level, the legislation supports the principle of "intermodal competition". Transport Canada and the Canadian Transport Commission, however, have been primarily concerned, at least until recently, with ensuring that the national transportation system responds to the government's economic objectives of wide-ranging growth, stabilization and income redistribution. Since the 1970s, government policy has increasingly reflected the view that the national transportation system has matured, that intermodal competition exists, and, therefore, that it is possible to meet the needs of the

economy without such a high level of government intervention across the entire system.⁵² Policy is directed towards maintaining a complex network of "managed markets", as they involve a number of transportation sectors. The same can be said of the overall policy approach to telecommunications and broadcasting.

A study undertaken for this Commission compares intergovernmental regulatory trends in three sectors: airlines, telecommunications, and securities and financial markets.⁵³ Government regulation in these sectors has evolved from a form of policing to a promotional function, and subsequently to a planning format. The former policing function involved a narrower focus, similar to basic public-utility regulation, while the latter planning format involved decisions aimed at meeting a wider range of goals, including regional and social goals. The former was passive and adjudicative, while the latter required more activity. This active role was a product of a variety of pressures on both the federal and the provincial governments. The provinces have been involved in a threefold sense: as regulators themselves, as representatives of interests in these sectors, and as the owners of their own transportation and communications enterprises. Given the rapidly changing technology in these areas, combined with some of the realities of recent U.S. deregulation measures, this Commission's study suggests that selective deregulation measures be adopted in this country. This does not necessarily suggest that all aspects of these operations should be governed by market forces, but rather that selective reductions should be made in regulation. Commissioners support this general approach.

Our earlier reviews of the regulatory framework referred to the need for selective deregulation in a number of areas because of such factors as the rate of technological change (especially in telecommunications), U.S. deregulation measures (especially in transportation), and the need to enhance competitive forces in the Canadian economy. Our consideration of competition policy suggested that the concern should not be corporate concentration *per se*, but rather public and private actions that tend to restrict competition. Increases in corporate concentration in Canada's transportation and communications sectors have been significant, but whether they have been made at the expense of competition is more questionable.

Our earlier analysis of the role of Crown corporations and mixed enterprise is also relevant, since it is the combined presence of extensive regulations plus public enterprise that distinguishes the Canadian public-policy approach to transportation from that of the United States. Thus, deregulation of air transportation may make only limited sense unless it is accompanied by the sale of Air Canada. Over recent decades, both levels of government have used Crown corporations extensively in the transportation and communications sectors.

Let us consider, also, the role of mixed enterprises such as Telesat Canada. The ownership structure of Telesat Canada is such that this institution has become a vehicle for slowing down, or at least managing, the introduction of new technology potentially useful to its member shareholding firms, but at the same time, threatening to existing land-based telephone systems, many of

which are owned by provincial governments that hold shares in Telesat Canada. The 1977 Cabinet decision to allow Telesat Canada to join the TransCanada Telephone System (TCTS), which informally regulated transcontinental rates, further complicates the interlocking public-private/ownership structures. Whatever may be claimed about its role in stabilizing technology, TCTS cannot be said to have aided competition.

A related issue concerns the degree to which a Crown corporation, such as Canada Post, will be allowed to compete and transform itself into a full-fledged communications company. We usually think of Canada Post in terms of its historic labour-relations and deficit problems, but its future viability is inextricably linked to its competitive capabilities. Business critics want its deficit eliminated, but object to its competing in private sector services. At the same time, Canada Post is losing business to competitors, which helps to account for its deficit.

In a very different vein, Commissioners wish to consider key concerns about the future of the Canadian Broadcasting Corporation (CBC) in the communications industry. While we Canadians think of the CBC as a cultural enterprise, it is also the key to what a growing telecommunications industry can become. Requiring the CBC to compete in order to obtain revenue is perhaps not the way to proceed. The best policy might be to subsidize the CBC fully so that it need not compete for advertising dollars, thus leaving it free to foster both culture and the arts industry.

Another factor which Commissioners wish to note about policy trends is that federal spending on transportation and communications as a percentage of total federal expenditure, after a short burst of increases in the early 1970s, has steadily declined from 7.3 per cent in 1974⁵⁴ to 5.3 per cent in 1982. The expenditures arising from the Crow agreement will result in some increased investment, but the data show that prior to this decision, support for railway infrastructure had been shrinking. Provincial expenditure data show a similar pattern of overall decline in all provinces except Alberta.

Declines in the share of spending are not necessarily causes for concern in themselves. Juxtaposed with probable capital-infrastructure needs over the next two decades, however, the relative decline in public investment becomes a serious problem that must be reversed. In 1981, Transport Canada indicated that the task of replacing aging capital stock in the transportation sector (including pipelines, but excluding passenger-railway facilities) would require more than \$90 billion in total public and private sector investment.⁵⁵ This figure does not include potential federal transportation investments in energy-resource projects, such as those in the Beaufort Sea, off the Newfoundland shore, and in the Arctic.

These expenditure requirements, apart from the sheer size of the investment involved, illustrate how key transportation decisions must be linked to mega-project resource developments and to the regulatory framework and federal-provincial/overlapping-approval processes. Transportation investments associated with resource developments involve long lead times, as do the resource projects themselves; thus, long-term market stability is important. Resource markets, however, are unstable. Almost invariably,

resource mega-projects involve both the federal government and the provinces. The complex consortia of firms involved in a large-scale resource undertaking usually ask governments to provide substantial subsidies or at least to share a significant proportion of the risks involved. Commissioners urge federal and provincial governments to try to achieve the greatest possible co-ordination of the approvals processes governing major new projects. We are also well aware, however, that extensive time may be required to work out risk-sharing arrangements between governments and private sector participants as they apply both to the proposed resource developments and to the provision of associated new transportation facilities.

As we have indicated, the estimated levels of future investment required in transportation do not include those applicable to passenger-rail facilities. While recent attention has focused on the "on again, off again" status of a number of Via Rail's passenger services, there are serious long-term/investment decisions to be made that have major economic and political ramifications. Economically, the best receptor for enhanced passenger-rail service is in the Quebec-Windsor corridor. To provide this service would require a massive government investment to construct the track bed required for high-speed trains to compete effectively with other modes of transport. Much of this very large investment would favour Central Canada, a fact that, of course, displeases other parts of the country. Until these political conflicts of interest are resolved, rail service will probably be based on half-measures that result in poor service and further deficits.

Commissioners consider that there is a need for an increased level of government and private investment in the transportation and communications fields over the next two decades. We see a strong role for Crown corporations continuing in this sector as a whole, but we suggest that privatization might make sense in selected areas. At the same time, we are also concerned about the degree of regulation that persists in certain areas of transportation and communications.

The U.S. move toward deregulation of a number of transportation industries may leave Canada with no practical choice but to follow suit, at least in some measure. In their cross-border business, for example, Canadian railways already face the effects of this deregulation because U.S. railways can make agreements or contracts on a bilateral basis with shippers, without having to register or table their rates before U.S. regulators. Since Canadian railways could be harmed by this competition, selective deregulation should be allowed in Canada for this kind of cross-border traffic. The deregulation of U.S. trucking also affects the Canadian trucking industry. The Economic Council of Canada's study of the Canadian trucking industry⁵⁶ argued that considerable deregulation in Canada would be desirable and feasible. We believe that a gradual movement towards partial deregulation of trucking is sensible, keeping in mind the differences in the nature of the Canadian market. Commissioners see a general need for governments to favour a more market-oriented approach in the transportation and communications sector than is currently the practice.

Intervention Guidelines for Industrial Development

Markets are the primary means for allocating resources in the Canadian economy. While Canadian markets do not correspond to the perfect markets usually described in textbooks, many are highly efficient. In most circumstances, it is unrealistic to expect governments to out-perform the market in determining the proper allocation of resources through direct intervention aimed at influencing the activity of any particular sector or firm. Nevertheless, there are certain limited cases in which reasonable economic grounds may exist for considering such intervention. Commissioners have discussed how a well-designed adjustment policy can help the market to transfer labour and capital out of declining sectors and into expanding sectors with a minimum of disruption. We now consider the circumstances in which a more direct form of government intervention can help to promote economic development.

In its broadest terms, government intervention may be warranted in situations in which there exists what economists often refer to as a “market failure”. Such failure arises when costs or benefits to third parties are not fully reflected in market transactions. Public goods and services often provide tangible and intangible benefits difficult to price in the market or to charge to those who use them. Defence provides what is regarded as a public good, and certain kinds of knowledge and information could fall into the same category. A case can be made, for example, for government subsidization of research and development through tax assistance, grants and other means. This research may lead to the creation of knowledge that will add to the public good, through the development, for instance, of a new strain of wheat that will significantly increase the crop yields of Canadian farmers.

Government intervention may be required in situations where the technology is such that large-scale operations produce substantial economies. In the more extreme cases, this factor may lead inevitably to the creation of what are often considered to be natural monopolies, particularly where utilities such as telephone and electrical power services are involved. Simply because their monopoly position carries with it substantial economic power, such utilities are almost universally subject to public regulation and/or operated by government-owned corporations. Many transportation facilities are also provided or subsidized by governments. Unfortunately, in many instances, these subsidies have been established at levels substantially in excess of those required to promote the development of an efficient transportation system. The St. Lawrence Seaway is a good example of a transportation project that because of its high fixed costs, could never have been undertaken except by government.

Some economists have argued that private-sector companies are unduly averse to assuming risks, and that as a result they are biased against involvement in large risky projects in which capital investment will be recovered, at best, only over a long period of time. The private sector's discount rate for a high-risk project may include an exceptionally high premium to cover the risk. While a private company or companies might conclude that the resulting discount rate or expected return was unacceptably

low, a government might conclude that it was justified to assume some (or all) of the risks involved, because of the high social benefits the project would yield in relation to its prospective costs. This, at least in part, appears to have been the reasoning behind the support governments have provided to certain mega-projects over the past decade or so.

Another reason for government intervention is to assist "infant industries". Governments hope that with a modicum of support, such industries will become self-sustaining and thus create jobs and income. For this type of approach to be successful, long-term gains must exceed initial short-term losses. A great disappointment has been the failure of many infant industries to grow up. This history leads Commissioners to be sceptical about government support of infant industries.

Governments have also cited the small size of the Canadian market in relation to minimum efficient plant size in justifying intervention to rationalize the structure of production. The problem of sub-optimal scale plants which produce only for the domestic market is caused by the tariff. Ironically, therefore, government intervention is required in this sort of situation to undo the effects of its earlier intervention.

There are some industrial policies that do not deal with specific market failures, but do have an economic rationale. The government defends as necessary certain policies to assist industries to compete internationally or to protect domestic industries from foreign competition in order to match the assistance provided by other countries to their own domestic industries. Commissioners believe, however, that a better approach to this problem would be for the government to continue to work to minimize trade-distorting practices. Only if such an approach were to fail, and only if the counter-subsidies appeared to have the potential of inducing the "other side" to desist from its interventionist policy, should our government contemplate intervention.

Many national governments are inclined to support domestic industry, particularly in the manufacturing sector. This inclination no doubt reflects the degree to which manufacturing industries are exposed to international competition. Canadian tax incentives for manufacturing and processing, such as the lower tax rate and capital-consumption/ allowance rate on a two-year basis, as well as the emphasis on manufacturing in most federal government, industrial assistance programs, can be justified in terms of the support other countries give to their manufacturing sectors. Nevertheless, it is Commissioners' conviction that all countries would probably be better off with a more neutral tax and expenditure system.

Small business is another sector that has been favoured by the government. Arguments in favour of such support usually cite the entrepreneurial dynamism of the sector and the benefits to be derived in the form of increased growth in output and employment.

The promotion of regional development is another important goal of government policy. As a general rule, regional development is not designed to compensate for any of the traditional causes of market failure. Instead, it is based on a broader national objective that all areas should share in the benefits of growth in output and employment, and hence, that industrial

activity should be spread more equally across the country. The investment tax credit is regionally differentiated to encourage investment in high-unemployment regions of the country. The Industrial and Regional Development Program (IRDP), the federal government's main industrial grants program, is structured to provide greater incentives in high-unemployment regions. However, regionally differentiated tax and expenditure programs can retard overall economic growth and distort the pattern of development.

Objectives other than improving economic efficiency are often the motivating force behind industrial policies. Redistribution of income from one group to another is frequently a prime consideration. As a general rule, industrial policies are not a good means of achieving this objective. Nevertheless, because producers' groups can benefit substantially from many policies, whereas the losses tend to be diffused much more generally among the public, there can be considerable political pressure for industrial policies to be directed towards the redistribution of incomes.

While market failures can result in inefficiencies that may warrant government intervention, the political process itself also has failings that must be taken into account. A government's preoccupation with income redistribution, for example, may cause it to overlook or ignore other measures that could correct the existing failure in the operation of the market-place. The underlying situation may, therefore, be made worse by government intervention intended to improve it. This paradox should give pause to those who call for interventionist solutions for every failing in the market, however minor. It is only in the case of very serious market failings that intervention is likely to be at all helpful.

Since government will inevitably intervene to promote economic development, it is useful to have some criteria for determining where intervention is warranted. The first criterion is that an intervention should be considered only if it is likely to improve the allocation of resources and, hence, real growth; it is necessary that projected benefits exceed projected costs by a significant margin. While cost-benefit analysis is not a precise science, it does offer a variety of useful techniques for evaluating specific industrial policies and programs. The application of this and other evaluation methodologies by the program-evaluation divisions of departments and agencies, with the assistance of the Comptroller General's office, should be important in identifying, and subsequently discontinuing, those programs that are not producing net benefits.

For those interventions which, in addition to improving the allocation of resources, also have non-economic objectives, it is necessary to have a second criterion: that a non-economic objective should be achieved at the least cost. The same evaluation tools mentioned above can be used to analyse the relative effectiveness of programs in accomplishing given objectives.

The government should not allow intervention expenditures to become open ended. Instead, it should establish a strict budgetary limit to serve as a fence around the expenditure of public funds. All too often, an expenditure commitment to support a particular sector, industry or firm has been permitted to escalate far beyond original budget levels.

It is very important that all industrial policies and programs be subject to the closest possible government scrutiny. The presumption must be that in the great majority of cases, the market is the best-available mechanism for resource allocation. The burden of proof must be on those who propose intervention. The economy will be more dynamic and its development prospects better if greater emphasis is placed on the market, and less on government intervention, as the engine of development.

If the case for intervention proves to be compelling, then it is also important that the government choose the most appropriate instrument. Commissioners strongly believe that the instrument which is most consistent with a market-oriented approach should be selected. For this reason, we prefer tax incentives to selective grant programs and both to direct regulation. Tax incentives are more generally available than grants and do not involve the exercise of administrative discretion. They tend, therefore, to have a less distortionary effect on the market-place than do grants. Both tax incentives and grants leave the final production and pricing decisions in private hands, whereas regulation transfers some of the more important of these decisions to government and its agents.

A Commitment to a Strengthened Economic Union

A key component of this Commission's mandate is to make recommendations to secure and strengthen the Canadian economic union. Part VI of this Report addresses this aspiration and advances extensive recommendations. At this juncture, Commissioners simply wish to point out the importance of a strong economic union for the implementation of effective industrial policies. Indeed, a strong economic union and effective industrial policies are interdependent. Given the division of power and authority between the federal and provincial governments in this area, it is not possible for effective industrial support to be provided unless the policies and programs of the two orders of government are reasonably harmonious and mutually reinforcing. It is most unlikely that the economic union will be strong if there is regional disaffection with Canada's industrial policies. Moreover, it is unlikely that Canada's industrial policies will lead to improved productivity growth and competitiveness if the domestic market is hampered by restrictions on the interprovincial mobility of resources. The Canadian Chamber of Commerce made this observation on domestic barriers to trade, investment and the movement of people:

We are concerned that existing institutions and policies have reduced the flexibility of the Canadian economy and its ability to change. This has been done over the years by erecting barriers to the movement of a) labour, b) capital and c) by government policies that inhibit the rationalization of some of our industries.
(Canadian Chamber of Commerce, Brief, October 6, 1983, p. 55.)

These developments threaten to segment Canada's already small domestic market and, in the process, reduce economic efficiency and our ability to meet international competition.

Commissioners have stressed that a more market-oriented approach to industrial policy should guide the allocation of Canada's human, capital and

natural resources. While a case can be made for provincial governments to compete among themselves for the location of these resources, to maximize their social benefits once a plant is established, government should not protect its output further, through procurement, for example. In addition, governments should avoid engaging in what might be called "negative sum competition"; this procedure might develop, for instance, in the course of bidding for new investment, especially foreign investment. Intergovernmental consultation and co-ordination are necessary prerequisites for strengthening the economic union and devising effective industrial policies.

Conclusions

Submissions to this Commission have demonstrated the considerable divergence of views held in Canada with respect to industrial policy. The business community generally favours a government "hands-off" approach, while social and labour groups express fear that such a course would result in measures that favour economic growth at the expense of the full-employment objective. Correctly fashioned, however, industrial policy need not involve a trade-off between economic growth and employment. Indeed, Commissioners are of the view that a well-thought-out, consistent framework for industrial policy will result in the economic growth and employment objectives being complementary and mutually reinforcing.

If these objectives have been contradictory in the past, a point which is debatable, the contradiction arose as a result of the undue attention government paid to protecting declining industries and retarding the adjustment of the economy to changing conditions. Far too little attention has been given to putting in place incentives that would contribute to the creation of a flexible and adaptative economy in which human, capital and natural resources are constantly being directed to uses that provide goods and services of progressively increasing value.

While there may have been a time in Canada's past when strong demand for our products abroad and protection for markets at home allowed us the luxury of condoning some misallocation of our economic resources, changes in our present and prospective circumstances now require us to make every effort to improve our productivity and our international competitiveness. The challenges posed by other major industrial countries, such as the United States and the nations of Europe, as well as Japan and the newly industrializing countries, require that we reorient our industrial policies. Commissioners have recommended that Canada pursue the development of a more liberalized trade environment, particularly with the United States. While we believe that such an approach would offer Canada potentially substantial economic benefits, the institution of industrial policies that will enable us to reap these benefits is of vital importance.

There is no panacea for improving the amalgam of instruments that compose industrial policy because so many aspects of our society are involved. Nor is there any facet of international experience that would suggest a grand solution. This Commission has carefully considered the possibility of pursuing a highly-targeted approach to industrial policy under which governments, in

co-operation with the private sector, would try to distinguish between industrial “winners” and “losers”. We are convinced, however, that problems involved in detailed government efforts to anticipate market forces, administrative complexities, the high risks of failure—particularly in an era of general government restraint—and other considerations weigh against such an approach at this time. This reality is and will remain strong until Canadians gain some experience with the adjustments required by a more liberal trade environment with the United States. Commissioners believe, instead, that the policies Canada establishes to foster industrial growth and development should be governed much more strongly by the dictates of the market-place than they are now.

To argue for a more highly market-oriented approach is not to argue for the continuation of *ad hoc* policies or the implementation of no policies at all. Canada needs a clear and consistent industrial policy to guide the private sector in its investment decisions and to facilitate consultation and co-ordination among governments. Of utmost importance is the adoption of a strategic objective, or set of objectives, that will make possible the charting of a steady industrial policy course. In light of emerging trade and technology developments, Commissioners recommend that industrial policy be firmly directed toward improving Canada’s productivity and internationally competitive position.

This achievement, in turn, requires reorienting many major policies and programs, both at the federal and at provincial levels. Foremost among these requirements is that concerted efforts be made to achieve a steadier framework for private decision making and investment policy. Private sector decisions are complicated enough, without those who make them having to contend with gyrations in the relevant government policies. In addition, governments should recognize that more open trade and investment policies will also unleash new forces in the market-place that will further the need to allocate our human, capital and natural resources as efficiently as possible. The opportunities associated with a more closely integrated international environment, together with the demands which tough competition will place on domestic industry, can be expected to do much to remedy Canada’s poor productivity performance of the past dozen years.

While tougher international competition will be strong medicine, it is not the only remedy. Governments across Canada must pay close attention to the development of the human and capital resources that our industries need to compete effectively with other countries. Part V of this Report elaborates on the training and educational skills that our labour force will need to ensure that Canada keeps pace with, if not ahead in, the technological “race”. In this part of our Report, Commissioners have highlighted two dimensions of our economy that are particularly vital: first-class management and a strong entrepreneurial spirit. Both dimensions require “shots in the arm” because both have been found wanting in some critical ways. Capital formation has, until recently, been relatively strong in Canada, but even here, tax reforms and other measures could help to encourage the private sector to take a more dynamic, risk-oriented approach. Domestic research and development must be more effectively directed to commercial applications, and foreign

technological developments should be more rapidly and aggressively adopted or adapted. Both moves will require the institution of a more sophisticated information "network" among Canada's managers and researchers and foreign experts than exists at present.

The whole framework of government policies that so strongly influences decision making in the private sector should be reconsidered with a view to encouraging the pursuit of excellence, the efficient allocation of resources, and the institution of innovative new processes, products and systems. The tax system, for example, has a fundamental bearing on decisions about working and leisure, and about consuming, saving and investing. Competition policy, the monitoring of foreign investment, the regulatory framework, and the scale and scope of Crown-corporation operations also have major implications for private-sector decisions. All these factors have features that Commissioners believe require reform in order to enhance Canada's productivity and competitive performance. Our transportation and communications sectors also require strengthening, for in a country as immense as Canada, they provide the infrastructure that is essential to securing and strengthening the economic union. In addition, governments across Canada must help to secure the economic union by minimizing those policies and programs that impede the free movement of labour, capital, and goods and services across the country.

Industrial policy requires adjustment mechanisms that facilitate the transfer of resources from low-valued use to high-valued use. Flexibility and adaptability in a rapidly changing world should be self-evident requisites for Canada, as we depend heavily on international trade. Commissioners urge that adjustment policy become a central component of industrial policy: declining industries should not be shored-up, but rather rationalized or phased out as circumstances require; assistance should be directed to re-employing the resources of declining industries, especially labour resources, in more productive industrial enterprises.

These components of industrial policy hold the potential for greatly improving Canada's productivity and competitive record. Commissioners are confident that these factors, in turn, will contribute to increases in our Canadian output, employment and real incomes.

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Short-Term Stability and High Employment

Introduction

As Commissioners have already emphasized, there is good reason to believe that over the longer run, the main determinants of economic growth and development are structural factors related both to the supply of goods and services, such as expansion of the labour force and changes in capital investment and productivity, and also to shifts in world demand for Canada's products. That Canadians' real incomes are now, on average, more than twice as large as they were 25 years ago, that total employment is almost twice as high, and that total employment in manufacturing is 1.3 times as high are among the results of combinations of these structural factors.

At the same time, however, we are also acutely conscious of the fact that our well-being at any given point can be sharply affected by shorter-term fluctuations in the economy. This is particularly obvious at a time when unemployment remains close to its record post-Second World War level, when real interest rates are very high, and when experience with high inflation and even higher interest rates is still very fresh in Canadian minds.

The major elements here—output, employment and unemployment, inflation, and interest and exchange rates—are closely interrelated, although some may be of more fundamental importance than others; most observers, for example, view unemployment as of more importance than the exchange rate. The study of the relationships, levels and stability of these elements over the short term has come to be called “macro-economics”. Governments, using a variety of instruments, try to achieve the best possible balance among these factors; the most important and powerful are monetary and fiscal policy, which together constitute “demand management”.

Because of the complex relationships among macro-economic elements, the simultaneous achievement of goals involving the levels and stability for each is often very difficult, if not impossible. A growth of output so strong that it

strains available human, material and financial resources, for example, may lead to an increase in inflation and interest rates that in time could adversely affect the prospects for the continued growth of productivity and employment. An extended period of high unemployment may be associated with weak investment and thus with a lasting reduction in Canadians' capacity to produce and in our real income levels. Long-run benefits may involve short-run costs, and vice versa. Given these kinds of trade-offs, which directly affect the welfare of different groups in society, the problems of striking the right balance in setting demand-management policy must be both complex and controversial.

In organizing our discussion of demand management and some of its options, Commissioners have faced something of a dilemma in emphasis. For most of the post-war period, Canada, like most other developed Western economies, has experienced relatively high employment. A tendency for the rate of inflation to creep or climb upwards has, however, been a persistent concern. Many of the major developments in economic analysis over this period have centred on inflation and have brought into better focus the limits of demand-management policy in stabilizing the economy and reducing unemployment. Another important strand of development has dealt with the nature of unemployment; it suggests that a significant level of unemployment is a normal phenomenon, associated with the "frictions" of workers moving into the labour force or from job to job.

Canada's economic experience since 1982, however, makes it all too clear that unemployment can rise far above any level that could be considered "normal", and that it can still constitute a severe—currently, the most severe—problem facing our economy. Since 1982, rates of unemployment have prevailed which are higher than 11 per cent overall and, indeed, stand at almost 20 per cent for youths aged 15 to 19. These high rates and the lengthy periods of unemployment experienced by many older workers constitute a grave failure of our economy to provide a reasonable standard of social and economic welfare for all, and to make full and good use of its resources. The prospect that the situation will improve only slowly causes Commissioners deep concern, not merely because of the immediate hardship and current waste of resources involved, but also because prolonged experience with unemployment can sap the morale and the future potential of those affected, including those who are, or should be, at the critical stage of acquiring their first work experience.

For these reasons, a paramount objective of this Commission is to find ways to achieve, on a sustained basis, substantially lower levels of unemployment. Nonetheless, we are a Commission "for the longer term". We believe that the present high unemployment is largely a cyclical phenomenon, though one that may take several years to overcome. When we reach policy conclusions in this chapter, we give full weight to the need to use demand-management policy to alleviate the short-term, but crucial, problem of the high cyclical unemployment current in Canada. We also give substantial attention and weight to historical experience and to analysis arising in the post-war period. These elements offer lessons for the longer run about the level of unemployment likely to be sustainable, on average, through demand-

management policy. In light of this Commission's long-term perspective, the question of means available to reduce this *non-cyclical* component of unemployment is of equal importance to, or even greater importance than, the *cyclical* component.

To provide a framework for the analysis of demand management, the first section of this chapter outlines some of the basic notions of macro-economics. Supplementing the general discussion are subsections on recent analytical approaches to unemployment and on recent experience with inflation and policy attitudes towards it. Two specific analyses are important to understanding the macro-economic choices open to the economy: the implications of the openness of the Canadian economy to trade and capital movements, and the extent to which the size of fiscal deficits and government debt constitute a constraint on policy. After reviewing this analytical framework, we shall consider its implications for the conduct of Canada's monetary and fiscal policy. The issues to be considered include:

- The desirability and feasibility of using exchange controls, taxes or other measures to insulate interest rates in Canada from international movements of interest rates
- The desirability and feasibility of going further in providing various forms of inflation adjustment
- Monetary and fiscal policy questions that arise from the federal and regional nature of Canada.

We shall also consider whether incomes policies might serve as means of further improving macro-economic performance, and whether structural changes in wage and price setting might have the same potential and, in particular, might be used to lower the "normal" rate of unemployment without generating new inflationary pressures. A brief concluding section outlines a possible policy approach that includes monetary, fiscal and incomes-policy action in an attempt to achieve a more rapid reduction in unemployment than seems in prospect, while avoiding any resurgence of inflation.

Our Macro-economic Choices: An Analytical Framework

Some aspects of macro-economics—in particular, the linkages of money, inflation, exchange rates and interest rates—have been the subject of study for centuries; the analysis of business cycles also has a long history. However, modern analysis of macro-economic issues, especially the role that demand management can play in stabilizing the economy, really began to take form only after the publication, in 1936, of John Maynard Keynes' *The General Theory of Employment, Interest and Money*.¹

A highly simplified outline of the main ideas and vocabulary of the evolution of macro-economics since Keynes provides a good means of sketching current issues and the policy-action options that our present understanding suggests are open to us. Our "story" form of presentation is meant to provide a constant reminder of the highly simplified nature of our

discussion, which is aimed at underlining the broad considerations that must be taken into account for policy purposes.

The Development of Macro-economics

Perhaps the most familiar name to students of modern macro-economics is that of John Maynard Keynes. For several decades, most theoretical work in this field has expounded, expanded or reacted to *The General Theory of Employment, Interest and Money* and his other works. This is not to say that Keynes created macro-economics. Many concepts fundamental to this field are much older than his works. One, for example, is that of aggregate demand, which refers to total spending in the economy on “final” goods and services.² The aggregate demand in a given national economy is, broadly speaking, the sum of spending by consumers on goods and services, by business on new physical capital and net accumulation of inventories, by governments on the goods and services they provide, and by foreign purchasers of the country’s exports. The complement of aggregate demand is aggregate supply, which is, basically, the sum of the final goods and services that will be supplied for all of the above purposes at a given average price level. Aggregate demand in nominal terms, that is, in terms of the prices that actually prevail at a particular point in time, is determined by a number of factors; these include the level of the money supply, which is governed by monetary policy, and the levels of government expenditures and revenues, which are determined by fiscal policy. For any given level of nominal aggregate demand, real aggregate demand will vary inversely with the price level: the higher the price level, the lower will be the real demand, and vice versa.

Analysts early developed important points about interdependence of spending (aggregate demand), prices, income and employment. One concept was the multiplier effect: the notion that an initial increase in spending will eventually result in some multiple of the initial increase because the income from the initial spending will be re-spent. Analysts also assumed that in the short run, the prices of goods and services would not vary much with output as long as that output was below the level corresponding to full employment of the labour force. Prices would start to rise only if demand rose beyond this point.

Aggregate demand and aggregate supply together determine the short-term levels of output, employment and prices. Consequently, monetary and fiscal policy will affect these levels as will other influences on demand, such as demand for exports and the amounts people wish to save. In theory, then, monetary and fiscal policy, by influencing aggregate demand, might guide the economy to the output level consistent with relatively full employment and stable prices.

The deep prolonged depression of the 1930s led macro-economists to the view that in the absence of government action, aggregate demand might fail to find a level consistent with full employment of the economy’s resources. They concluded, therefore, that demand-management policy had a potentially

important role: that is, to keep aggregate demand high enough to sustain relatively full employment.

The widespread acceptance of this theoretical approach in the 1940s and 1950s owed much both to the Great Depression, which came about when aggregate demand fell far short of aggregate supply for an extended period, and also to the Second World War, which demonstrated that government could indeed play a very effective role in stimulating aggregate demand and thereby decreasing unemployment.

By the mid-1940s, economists recognized that this analytical framework applied only to the very short term. It became apparent that in the longer run, capital investment would expand the potential productive capacity of the economy. Furthermore, the accumulation of wealth from savings, such as those invested in bonds issued to finance government deficits, might induce individuals to channel an increased proportion of additional income, not into further savings, but into consumption, and thus add to aggregate demand in the economy. A more complex theory was clearly required, one that could be used to analyse issues involving economic growth over the longer term. This growth theory has evolved continuously since the 1940s, but it has proved difficult to integrate with the theory of shorter-run “cyclical” fluctuations in the economy.

The creeping inflation of the 1950s and a closer scrutiny of the historical record forced economists to conclude that the notion of a sharp dividing line between inflationary and non-inflationary levels of demand was not appropriate, even as a simplified representation of reality. In the real world, prices and wages began to rise before the economy was running “flat out”: that is, before the unemployment rate fell to the level which people thought might correspond to the rather vaguely defined concept of full employment.

The analytical response to this phenomenon evolved into the so-called “Phillips curve” originally devised by A.W. Phillips of the London School of Economics, who carried out an extensive analysis of the history of wage behaviour in Britain. The Phillips curve depicts a relationship between inflation, as represented by the *rate of change* of prices or wages (rather than just the price or wage *level*), and the level of unemployment or some other measure of economic activity. Phillips found the relationship between the two phenomena to be inverse: if unemployment were “low” and the economy were, therefore, operating close to the limit of its capacity, upward pressure on costs and prices would be “high”, and vice versa.

This framework for viewing demand management implied that the policy problem was more awkward than it had at first appeared. Demand-management policy might be able to move the economy along the Phillips curve, achieving lower unemployment at the cost of higher inflation or achieving lower inflation at the cost of higher unemployment. There was no reason to think, however, that such policy could shift the position of the curve itself and so improve the basic trade-off. Empirical estimates of the Phillips curves for individual nations suggested that in most countries, inflation would, in fact, begin at levels of unemployment higher than the notions of full employment current in the 1950s. In Canada, for instance, full employment

was considered to encompass an unemployment rate of 3 to 4 per cent. Not surprisingly, this discovery led to consideration of policy measures that might shift the curve, measures such as price controls, wage controls and other, more voluntary, "incomes policies". It was suggested that the trade-off between inflation and employment might also be improved by increasing the efficiency of labour-market operations. Improving the trade-off might involve reducing regional or occupational labour shortages that put upward pressure on wages and salaries before the economy as a whole was fully employed.

By the early 1960s, the advent of computers and advances in statistical analysis had led to the development of an increasing number of econometric models of the economy. These models were designed to provide reasonably accurate quantitative representations of the economy and its dynamics. In addition to providing useful economic forecasts, they furnished a basis for estimating how possible changes in monetary and fiscal policy would affect aggregate demand, employment and inflation. The development of this capability offered some prospect that judicious, and possibly frequent, changes in monetary and fiscal policy could "fine tune" the economy and thus keep it close to the best possible point of balance between unemployment and inflation on the Phillips curve.

It was also generally realized, however, that monetary and fiscal action tended to influence the economy only after various lags, and that economic forecasting was subject, probably inevitably, to significant errors. Thus the notion that it was possible to keep the economy within a very narrow range on the Phillips curve was never taken very seriously—or, at least, never taken very seriously for very long—by most of those involved in policy making or policy analysis. Indeed, the degree of uncertainty associated with economic developments had led a number of economists to accept the view, advanced by Milton Friedman of the University of Chicago, that governments could probably do no more to stabilize the economy than simply allow the money supply to grow at a constant pace. This view contradicted the accepted notion that government, by varying the availability of credit, could contribute to the stabilization of demand. In part, at least, the alternative view was a product of a developing perception that changes in monetary policy tended to influence the economy after particularly long—and variable—lags, making the effective application of such policy extremely difficult.³

Taking the concept a step further, some economists recommended an approach to fiscal policy that would, on average, maintain expenditures on a reasonably steady track over the longer term. The exceptions to this "rule" were expenditures for programs such as Unemployment Insurance (UI), which vary automatically with the business cycle and keep tax rates at levels calculated to balance the budget or produce a target surplus or deficit. This approach would involve an acceptance of the fluctuations in revenues and in the deficit that resulted from fluctuations in the level of economic activity. Such policies would provide automatic fiscal stabilization: the amount of taxes collected and Unemployment Insurance benefits paid would be allowed to vary as required to dampen cyclical fluctuations in the economy. In periods of slow growth, for example, tax liabilities would decline, and UI benefit payments would rise, dampening the decline in aggregate demand, output and employment.

In the 1960s, some economists perceived that changes made by the central bank in the money supply might have a greater effect on nominal demand than the majority of macro-economists had allowed for over the previous two decades, and that fiscal actions might have somewhat weaker effects than had been supposed. The direct longer-run relation between money and prices (that is, between monetary growth and inflation), which had been recognized by many economists in the pre-Keynesian era, was brought forcefully to public attention; again, the most prominent preceptor was Dr. Friedman, the leader of the emerging theory of economics known as “monetarism”. Economists who supported this theory also devoted increasing attention to the possibility that the way in which fiscal policy was financed affected its impact. The change in the budget deficit associated with a given fiscal policy action could be accommodated by a change in the money supply, such as the sale of at least some of the government debt to the central bank, or it could be financed entirely by sale of debt to the general public. Use of the latter alternative would put pressure on interest rates, “crowd out” private expenditure, and thus offset part of the action’s effect on nominal demand.

In 1968, an address made by Dr. Friedman and an article written by Edmund Phelps precipitated a further development in the economic analysis of inflation and stabilization policy. In essence, both economists argued that the notion of a stable trade-off between inflation and unemployment ignored a fundamental reality: if inflation continues for some time, people begin to expect it to continue, and they adjust their economic behaviour accordingly. If the rate of wage increase starts to rise as unemployment drops below a certain point and labour markets tighten, it is presumably because workers are in a position to earn higher *real* wages.⁴ Once the higher rate of wage increase is reflected in costs, however, prices also start to rise more quickly, with the result that workers do not obtain expected increases in *real* wages. If labour markets remain tight, the nominal wage rates demanded and obtained will increase again, to offset the higher rate of price increase. In short, the inflation spiral will continue as long as labour markets are tight.

The short-run Phillips curve might appear to offer a trade-off between inflation and unemployment. It is critically important, however, to recognize that the position of this curve is fixed only for the rate of inflation *expected* by most participants in the economy. If demand-management policy attempts to take advantage of this apparent short-run trade-off by trying to reduce unemployment below the so-called “normal” unemployment rate for any significant period of time, the expected and actual rates of inflation will progressively shift upward. As the expected rate of inflation increases, as it will if unemployment falls enough to add upward pressure, the short-run Phillips curve and the actual rate of inflation will tend to ratchet progressively upward. The argument also holds in reverse: if unemployment is high enough, actual inflation will fall below the currently expected rate, and the actual and expected rates will continue to fall over time.

The longer the period of time under consideration, the steeper is the trade-off curve. Ultimately, there is no trade-off between sustainable levels of unemployment and the rate of inflation.⁵ Associated with this “no long-run trade-off” principle is the notion that there is a critical level of unemployment rate that tends to prevail, on average, over the longer run. This critical

unemployment rate has been variously called the “natural”, “normal” or “full employment” rate, or, more neutrally, the “non-accelerating inflation rate of unemployment” (NAIRU). When unemployment stands above this rate, inflation will tend to decrease continuously. When unemployment stands below this rate, inflation will tend to increase continuously.⁶

Thus a situation in which the unemployment rate is higher or lower than the NAIRU is inherently unstable since it involves continuous change in the pace of inflation and cannot be maintained indefinitely. In principle, if unemployment is at the NAIRU, inflation will tend to persist at its current rate. In other words, the NAIRU represents a stable or “equilibrium” situation for the economy. The level of the NAIRU depends on the structure of labour markets and, possibly, on other institutional features of the economy. Factors that make for a prompt matching of supplies and demands for different types of labour, such as helpful information about job openings, high mobility of labour, and incentives that encourage people to take such jobs as are available, also make for a situation in which the unemployment rate can be quite low without leading to net upward pressure on inflation: that is, they tend to result in a low NAIRU. Factors that make for a mismatch in supplies of, and demands for, labour, including geographical dispersion, fluctuations in demand for different types of labour, and changes in the labour-supply mix, tend to result in a relatively high NAIRU. For the Canadian economy, the NAIRU is currently estimated to stand in the range of 6.5 to 8 per cent. (It is generally believed to have been lower, probably in the 4 to 5 per cent range, from the mid-1950s to the mid-1960s, but to have risen to the current range by the mid-1970s.)

The NAIRU is a critically important concept, and we shall refer to it frequently throughout this chapter. The “no long-run trade-off” principle implies that the NAIRU sets a lower limit to the level of unemployment that expansionary demand-management policy can achieve on a sustained basis. Demand management may still have an important potential function: in general, to stabilize the economy within the range of the NAIRU. Nevertheless, the notion that demand-management policy could achieve even lower rates of unemployment if society were willing to tolerate higher *but stable* rates of inflation evaporated with the general acceptance of the “no long-run trade-off” view. Another key corollary is that the chief way to achieve lower average rates of unemployment over the longer run is to reduce the NAIRU through policies supplementary to demand-management policies. Part V of this Report considers certain structural policies, including reform of the Unemployment Insurance system and other social safety nets that may make it possible to reduce the NAIRU.

General acceptance of the principle of “no long-run trade-off between unemployment and inflation” still left a short-run trade-off. This trade-off was different, however, from the original Phillips-curve concept of a trade-off between lasting reductions in unemployment and the continuing rate of inflation. It was now suggested that the trade-off was between *temporary* periods of unemployment below or above the NAIRU and increases or decreases in the continuing rate of inflation.

The proposition that there is no long-run trade-off between inflation and unemployment is consistent with one contention of the monetarist school: that

an increase in the rate of growth of the money supply, beyond the increase required to accommodate the sustainable increase in real output, will eventually result only in higher prices, and not in greater expansion of output and employment. This proposition has now gained wide, though not universal, acceptance. The monetarists' argument marks a return to the classical economic view that money is essentially neutral in the sense that in real terms, it has no long-run effect.

The proposition that no trade-off exists over the long run was put forward in the latter part of the 1960s, just after inflation had risen to a higher level than was consistent with the prevailing unemployment rate, given an "unshifting" Phillips curve. Before long, economists started to work with "extended" or "augmented" Phillips curves, in which the current rate of wage increase was related not only to the unemployment rate, but also to some measure of the *expected* inflation rate or some combination of the expected inflation rate and "catch-up" for past unexpected inflation. Fairly soon, it became evident that expectations about the rate of future inflation were having an effect on wage settlements, consistent with the hypothesis that there was little or no trade-off between inflation and unemployment over the long run.

The concept of "inflationary expectations" is important, not only to the analysis of actual inflation and the inflation-unemployment relationship, but also to the interpretation of interest rates and the analysis of their economic impact.⁷ When people refer simply to the "interest rate", they usually mean the *nominal* interest rate, which is the ratio of the flow of money income that accrues to the owner of an asset—say, a savings deposit or a bond—to the money value of the asset in question. The real interest rate is the nominal interest rate adjusted for the effects of inflation in reducing the real purchasing power of the asset in question. Thus, if a \$100 bank deposit brings its owner \$10 per annum, its nominal interest rate is 10 per cent. If the inflation rate is 6 per cent per annum so that over a year the purchasing power of the deposit falls from \$100 to (approximately) \$94, the real rate of interest yielded by that deposit is (approximately) 4 per cent. The \$6 "inflation premium" must be saved if real wealth is to be preserved. In brief, the real interest rate equals the nominal interest rate minus the rate of inflation.

Decisions to save, invest, borrow or lend are likely to depend more on real than on nominal interest rates. For example, if inflation is continuing steadily at a rate of 20 per cent, an investor will require a nominal interest rate of 20 per cent just to break even in real terms (before taxes), since the interest will be paid in money worth 20 per cent less than the value of the money borrowed. Under these circumstances, a nominal interest rate (on, say, bank deposits) of 22 per cent might be considered low,⁸ whereas under steady inflation at 4 per cent per annum, nominal interest rates of 10 per cent might be considered high.

Real rates of interest calculated by adjusting nominal interest rates for actual rates of inflation are sometimes referred to as "actual" or *ex post* real interest rates. Decisions to invest, save, borrow or lend are, however, inherently forward looking, and the real interest rate that affects them is the expected or *ex ante* rate: that is, the nominal rate adjusted for *expected*

future inflation. Expected future inflation rates are, therefore, an important determinant of nominal interest rates.

Another determinant of inflation came to be regarded as important in the 1970s. In 1973, the world economy received a severe shock—and a sharp reminder of its vulnerability—from the Organization of Petroleum Exporting Countries (OPEC), which set in motion a fourfold increase in international oil prices. The experience dramatically emphasized the fact that measured inflation is not determined solely by the relationship among aggregate demand, unemployment and wages. Significant “supply shocks” can make both inflation and unemployment more severe.⁹ Nevertheless, when allowance is made for supply-side shocks, the Phillips curve, as adapted to take account of inflation expectations, still provides a reasonably satisfactory framework for analysing the inflation experienced by developed Western countries since 1973.

During the early 1970s, there was a further development in thinking about the effects of expectations on the behaviour of the various participants in the economy. Partly as a matter of analytical convenience, it had been conventional to assume that expectations were determined by recent past experience and, therefore, tended to lag behind actual developments. In this “adaptive expectations” view, an expansionary shift in policy would give rise to the following sequence of developments. If the economy were at the NAIRU, the stimulative action would, after some lag, cause a reduction in unemployment. This decline in unemployment would, after some further lag, cause an increase in inflation. The increase in actual inflation would be followed by an increase in the expected rate of inflation. The cost and price hikes initiated in response to the increase in expected inflation would cause further increases in the pace of actual inflation. And so the spiral would continue to mount. As we noted above, this view suggested that inflation would eventually result in the dissipation of any real expansion in output and employment initially generated by expansionary policy measures. The economy would return, perhaps along a cyclical path, to the “pre-expansion” level of unemployment, but at a higher price level or rate of inflation.

In contrast, the new anticipatory view holds that individuals and businesses base their expectations on a “rational analysis” of the future effects of current and prospective economic policy and other circumstances. In particular, participants in the economy may anticipate the ultimate inflationary impact of any expansionary policy measures. This foresight leads them to boost inflation immediately by demanding higher prices, wages and nominal interest rates in order to avoid being left behind. Thus, policy measures can have a perverse effect. For example, a perceived attempt by monetary authorities to increase the money supply in order to reduce interest rates can have the opposite effect if investors are prepared to lend only at increased nominal rates of interest because they expect the monetary policy to raise the future rates of inflation and thus erode the value of their capital.

Behaviour based on such rational expectations, combined with very flexible prices and wages, can dissipate, virtually from the start, any real expansionary thrust of macro-economic measures. However, anticipatory behaviour has another side that provides some room for optimism about the effect of anti-

inflationary policy. If participants in the economic process can be convinced of the authorities' firm determination to pursue policies to reduce inflation, achieving this result may require less slowing of the rate of economic growth and a lower rise in unemployment than would be anticipated if expectations adjusted only to changes in actual economic conditions. Private behaviour might become less inflationary immediately after the shift in policy. Ideally, a move by policy makers to contain inflationary pressures by reducing the *nominal* level of aggregate demand would quickly lead to a reduction in the rate of increase of prices and wages, sufficient to prevent any decline in the level of *real* aggregate demand and, hence, any significant rise in the level of unemployment.

This description does not do justice to the subtleties and complexities of the "rational expectations" or "new classical" school of thought. The theory of rational expectations may suggest that demand management can have no impact on real variables such as output and employment. Yet most policy makers would agree that this conclusion goes beyond what happens in the real world. No country in post-war history has been able to reduce embedded inflation through a shift to anti-inflationary demand-management policy without going through a recession, no matter how strongly the authorities have worded their commitment to reducing the growth of the money supply. Nonetheless, the rational expectations analysis at least reminds us of the common-sense tenet that expectations have a critical influence on economic behaviour. It is not safe to assume that people will form their expectations mechanically and retrospectively. Participants in the economy almost certainly tend to react directly to policy and to act on the basis of what they believe about the longer-run effect of policy actions.

A final analytical development over the last decade has been the deeper exploration of the reasons for the relatively slow adjustment that is usually observed in rates of wage increases. The causes seem to be threefold: many wage contracts last for two or three years; many wage contracts "overlap", or expire on different dates; and inflationary expectations generally tend to lag behind actual experience. In turn, the slow adjustment of wages helps to explain why a speed-up or slow-down in the growth of nominal demand, following an inflationary or deflationary shift in policy, initially appears as a change in real growth and in unemployment. Only after an extended lag is the change in nominal demand reflected mainly in a change in inflation, with output and unemployment returning to their trend levels.

Today's Mainstream Economists and Their Differences

The majority of today's macro-economists still use an expanded version of the analytical framework that evolved out of Keynes' theories. They think that both monetary and, at least in the shorter run, fiscal policy can influence nominal aggregate demand, and that changes in nominal demand have at least some short-run effects on real demand, output and unemployment. Generally, they believe that what can be broadly termed "Keynesian policies" have contributed significantly to making economic fluctuations substantially

less severe in the post-war period than they were in the preceding hundred years. Finally, many still accept that periodic severe shortfalls of total demand which the operation of "normal" market forces does not solve quickly—the basic Keynesian problem—are a continuing danger and create an important function for active monetary and fiscal policy.

Today's economists do, however, generally stress short- and long-run effects on prices more than did the original Keynesian analysts. Furthermore, the majority now accept the view that there is little or no possibility of using expansionary demand policy to achieve sustained reductions in unemployment that will reduce that factor below the NAIRU, and they are unwilling to tolerate the inflation that would accompany such policy. Although they do not view the work of establishing a satisfactory analytical framework as complete, they sometimes think back wistfully to the "good old days", when it seemed unnecessary for economic analysis to concern itself with such a variable human element as expectations,¹⁰ when the profession's reputation for forecasting economic developments was higher, and when the policy advice it offered tended to be more palatable and more welcome.

These general propositions appear to command the support of a sufficient number of today's macro-economists to be considered as the mainstream view. It would be highly misleading, however, to suggest that this view translates into consensus on a wide range of policy issues. It remains, for example, a matter of considerable controversy—and of considerable importance in terms of future policy—whether it was appropriate for Canada, the United States and most other Western nations to tighten sharply their monetary policies in 1979 and thereafter, in an effort to reduce the inflation that had built up, partly because of the second oil-price shock. The sharp contraction in the growth of the money supply was almost certainly the primary cause of the severe recession experienced around the world during the 1980–82 period. The resulting decline in output and the dramatic increase in unemployment did much to reduce the inflationary spiral of prices from double-digit levels. This outcome presumably dispelled any doubts about the effectiveness of monetary policy in influencing aggregate demand and inflation. Lingering questions remain, however: Was the cure worse than the disease? Might not a less stringent application of monetary policy have achieved a similar result? And might other policy options have helped to control inflation with less lost output, lost income and unemployment?

While the United States has experienced a rather healthy recovery from the recession, Canada and Western Europe have not. Mainstream macro-economists are divided on the question of whether Canada and Western Europe will recover fully from the recession in the not-too-distant future (say, within two to four years). They also disagree about whether that recovery will occur on its own or will require assistance from more expansionary monetary and/or fiscal policy. They are divided, too, about whether it will be possible, after the recovery, to maintain unemployment rates in the NAIRU range without engendering new flare-ups of inflation.

Neither is there consensus as to whether attempting to achieve further reductions in inflation (say, going all the way to a zero rate) would be worthwhile, given the economic and social costs of postponing full recovery

that such a course would probably involve. Nor is there agreement about whether inflation should be addressed solely through non-inflationary demand management, which relates, primarily, to monetary policy, or by supplementing such policy with some form of incomes policy. Some argue that a temporary incomes policy would lessen the above-average unemployment associated with the process of reducing inflation. A smaller number claim that a permanent incomes policy would make it possible to achieve permanently lower rates of unemployment, without touching off another inflationary spiral: that is, that such a policy would lower the NAIRU. Finally, there is no consensus as to whether monetary and fiscal policy are best conducted according to fixed, relatively simple, publicly stated rules, or whether it is useful to take discretionary action in response to the evolving course of, and outlook for, the economy.

The disagreements among economists on these issues reflect complex combinations of differences in value judgements and in judgements on what are, in principle, matters of fact. The divergences in value judgements range from differences in the importance individual economists attach to avoiding a period of above-average unemployment, to differences in the weight they give to avoiding the interference with personal freedom that an incomes policy would entail. Divergences in empirical estimates are almost as wide. For example, practitioners have come up with substantially different calculations of the amount and duration of above-average unemployment associated with achieving a given reduction in inflation, and of the costs, in terms of efficient functioning of the economy, associated with inflation or application of an incomes policy. Perhaps most fundamentally, there are profound differences in judgements concerning the strength of the private sector's self-correcting forces: that is, about the likelihood that the economy, if left alone, will stay reasonably close to the NAIRU. These differences, which reflect considerable uncertainty about the effectiveness of various policy options and the nature of the trade-offs among them, are important because they underlie the difficulties we Canadians face as we consider means of improving macro-economic performance.

Before turning to these policy issues, however, we must consider the evolution of analysis in several specific areas: the nature of unemployment, and why the NAIRU is generally viewed as having risen significantly over the past two decades; the industrialized nations' recent, but fairly general, shift to the view that controlling inflation is a prerequisite for achieving good economic performance; the implications of the fact that Canada is an open economy with close linkages to the rest of the world through large, and relatively free, flows of goods and services and financial capital; and whether concerns about the size of the government deficit should constrain the exercise of fiscal policy to achieve macro-economic goals, such as a lower level of unemployment.

The Level of Unemployment and the Evolution of NAIRU

A key trend in the post-war period has been the rise in average unemployment rates. Economists' views about unemployment, its causes and its significance

have, in turn, undergone important changes. This section briefly reviews this evolution of knowledge, focusing on the components of the NAIRU, the "normal" rate of unemployment, which, as we have seen, is the portion of unemployment that is not directly related to cyclical changes in demand.

In focusing on the NAIRU, we Commissioners are not attempting to downgrade the importance of the hardships created by the cyclical component of unemployment. Indeed, the cyclical component disturbs us deeply, not least because, since 1982, it has accounted for a substantial proportion – probably at least one-third – of total unemployment. Because cyclical unemployment is tied to cyclical changes in demand, however, we deal with it separately, later in this chapter.

The unemployment rate is one of the most widely cited economic statistics. To a considerable extent, the attention it receives reflects policy makers' and the public's concern about the hardship that unemployment imposes on the jobless and their families and, from an economic perspective, about the lost output represented by unemployed workers.

The degree of hardship associated with periods of unemployment is extraordinarily difficult to measure, but for many members of the labour force, it has clearly declined in the post-Second World War period. This decline reflects a number of important trends described in more detail in Chapter 7. Most important, perhaps, has been the very substantial rise in the proportion of Canadian families that have more than one income earner. During the years immediately after the Second World War, an unemployed worker was often the sole or primary source of income for a family, but this situation became significantly less common in the late 1960s and 1970s, as the labour-force/participation rate of youth and, most dramatically, of married women increased. Even when unemployment peaked in December 1982, nearly 70 per cent of families with one or more unemployed members had at least one member who was working. In more than half of these families, the unemployed person was not the primary income earner. Another factor in easing the hardship of unemployment has been the expansion of the coverage and the benefits of the Unemployment Insurance (UI) system and, to a lesser extent, of provincial welfare programs. In addition, both real income and wealth have grown substantially so that many families can finance periods of unemployment more readily now than in the past.

In noting this long-term trend towards reduced hardship, the severity of the current unemployment problem and associated financial hardship must be acknowledged fully. As several studies have confirmed, the burden of unemployment is unevenly distributed among members of society.¹¹ Thus we make these general statements about the unemployed population as a whole in the full realization that they do not apply in many individual cases.

Given this general easing of hardship in the past few decades, some analysts have challenged the notion that unemployment is largely involuntary. The outcome of the ensuing debate has widely confirmed the very uncertain nature of the distinction between voluntary and involuntary unemployment. Keynes classified unemployment as voluntary if a job is available, but the unemployed worker is not willing to accept it at the existing wage; involuntary unemployment, he said, occurs when the worker is willing to work at

existing wages, but no jobs are available. Much popular discussion today uses a simpler distinction: unemployment initiated by a worker's quitting the last job is classified as voluntary, and other unemployment is considered involuntary.

Neither approach is sufficiently subtle to provide ground for analysis of some labour-market situations. Job hunters may have imperfect information about the various jobs available and their rates of pay and working conditions, and their unawareness makes it difficult to draw a dividing line between voluntary and involuntary unemployment. If an individual refuses the first job available, but continues to search for employment, is he or she voluntarily unemployed? Similarly, if a worker joins a firm or enters an industry or occupation known to be subject to lay-offs, in response to fluctuations in demand, is he or she voluntarily unemployed when a lay-off occurs? The unemployment is voluntary in the sense that the worker knew the risk at the time of accepting employment; indeed, the wage received may well have reflected this risk. It is involuntary, however, in the sense that he or she might have preferred continued work, even at a reduced wage.

The extensive debate has not produced agreement on acceptable definitions of voluntary and involuntary unemployment. It has, however, resulted in some new ways of looking at unemployment. One that emerged in the 1970s was the "new unemployment" view, which emphasized the importance of turn-over in the labour market. Its proponents challenged the notion that unemployment can be characterized simply as a shortage of jobs for a stock of unemployed workers waiting for an economic expansion. Rather, they suggested, at least when the economy was at or below the NAIRU, the problem was not a shortage of jobs, but the brevity of many spells of employment, which presumably reflected a large supply of unattractive jobs and a certain amount of experimentation with different types of employment. This situation, said the turn-over analysts, was particularly characteristic of many younger workers and of women, the groups whose labour-force participation was rising significantly. As evidence, they pointed to the substantial flows among the various labour-market categories (employed, unemployed, out of the labour force) and to the relatively brief duration of spells of unemployment.

A considerable amount of subsequent research has shown that while this concept is valid in a number of important respects, it is overly simplistic as a general description of unemployment. Research confirms, for example, that average spells of unemployment are brief, typically lasting two to two-and-a-half months. Furthermore, the groups with the highest unemployment rates, that is, youth and women, undergo shorter durations of unemployment than men. Thus, more frequent, rather than longer, spells of unemployment must account for the higher unemployment rates of youth and women. The research also shows, however, that a sizeable minority of workers suffer long spells of joblessness, and these lengthy spells account for a significant amount of the economy's total unemployment. In other words, individuals unemployed for long periods bear a substantial portion of the total burden of unemployment. Moreover, some of them are "chronically unemployed" because they suffer such repeated spells of joblessness that they are

unemployed for a substantial portion of their working lives. For these individuals, the claim that unemployment primarily reflects a shortage of available jobs seems substantially accurate. This conclusion is reinforced by the findings that a substantial proportion of spells of unemployment end in withdrawal from the labour force, that this proportion increases with the length of the spell of unemployment, and that spells of unemployment that end in employment are longer, on average, than those that end in withdrawal from the labour force.

Many analysts decry unemployment as a waste of valuable human resources. Although this description is widely accepted as applicable to unemployment caused by a deficiency of aggregate demand, it is less so to other components of the unemployment rate: frictional unemployment, which results from time lags in workers' moving from one job to another; seasonal unemployment, which results from the seasonal nature of activity in some industries and kinds of jobs; and structural unemployment, which results from basic changes in technology and consumer demand.

In fact, *some* periods of unemployment, rather than being a waste of resources, are a productive investment in the acquisition of information about job opportunities. To a point, job turn-over among young labour-force participants may represent their productive investment in the acquisition of information about types of employment most suitable for the longer term. In addition, for any unemployed searcher always to accept the first job offered is not in the interest either of the individual or of society. The search process, both by employers with job vacancies and by unemployed or underemployed workers, facilitates the efficient matching of workers and jobs. Similarly, temporary lay-offs in response to fluctuations in demand can be an efficient arrangement for employers and employees, especially when workers highly value brief periods of additional leisure time, and when the alternatives to lay-offs, such as inventory accumulation, are prohibitively expensive.

Thus, *some* of the unemployment unrelated to deficient demand is beneficial in the sense that it yields returns both to the individual and to society. The challenge in terms of policy is to ensure that the amounts of seasonal, frictional and structural unemployment are not excessive: that is, that the NAIRU is not too high.

A final observation concerning the waste of human resources applies to the way in which we measure unemployment. The unemployment rate as it is currently calculated does not reflect all unutilized or underutilized labour. The most important exclusion is the group commonly referred to as "discouraged workers": people who could work, but are not searching for employment because they believe that none is available, or because they are still awaiting recall after more than six months on lay-off. Another important group omitted consists of the underemployed people who are working fewer hours than they wish, or who are temporarily performing jobs that do not fully use their skills. The importance of these groups increases significantly in times of recession, but some underuse exists when the economy is at the NAIRU, because of a mismatch of job skills, for example.

The NAIRU is estimated to have risen from the 4 to 5 per cent range in the 1950s and early 1960s, to 6 to 7 per cent in the early 1970s, and to 6.5 to 8

per cent today. (These estimates should be treated with some caution because of the difficulties in allowing for the variety of factors that have affected inflation and unemployment during these years.) A detailed treatment of the various factors that are believed to have caused this rise in the NAIRU is provided in Part V of our Report. Briefly, the two factors that most empirical studies have found important are the very substantial demographic changes that have occurred in Canada since the Second World War and changes in social legislation that have affected the labour market, particularly legislation regarding Unemployment Insurance and, to a lesser extent, minimum wages. A third potentially important factor—one that has received little attention until recently—is the rapidity of structural change in the economy. If the pace of change accelerates, structural unemployment will increase temporarily as the economy and labour markets adjust to increases in demand in some industries and decreases in others. Some evidence indicates that the rate of structural adjustment was higher in the 1970s and early 1980s than in the late 1950s and early 1960s, although it is now probably no greater than it was during the immediate post-war period. However, the extent to which this increased volatility of the economic environment has contributed to a higher NAIRU has yet to be established.

The various factors have different implications for the future course of the NAIRU. Most of the demographic trends should now be leading towards a decline in the NAIRU, albeit a slow one: the growth rate of the labour force has dropped from earlier peak levels; most members of the baby-boom generation have slowly worked their way into the labour market; and the labour-force/participation rate of women is not expected to continue its earlier rate of rapid growth. Similarly, social legislation, particularly amendments to the Unemployment Insurance Act since the later 1970s, has contributed to some reduction in the NAIRU, although the extent to which these developments have been offset by increasing structural adjustment is an unsettled question. To predict the degree of volatility of the future economic environment is, of course, even more difficult.

Thus we see that the evolution of knowledge and belief about unemployment has led to increased recognition of its complexity and of the trade-offs between employment and other goals. The commitment to full employment declared in the 1945 White Paper on Employment and Income¹² has gradually given way to the realization that policy makers must pay attention to the goal of achieving both high employment levels and price stability. The degree to which unemployment results in economic hardship, the extent to which it represents a waste of human resources, and the proportion in which it is involuntary are questions that continue to be debated extensively, and this Commission can draw no simple conclusions concerning them. Unemployment is associated with financial difficulties, but for many unemployed persons, the degree of hardship is less now than it was in the past. Deficient demand and most structural unemployment result in a waste of resources, with associated human and social costs, but some frictional and other kinds of unemployment can be productive, since they can improve the matching of workers and jobs, and facilitate adjustment to economic fluctuations. The degree to which unemployment is voluntary or involuntary

is disputed to the extent that agreement has not yet been reached even on the meaning of these terms.

Inflation and Real Economic Performance

One of the most fundamental shifts in policy attitudes over the course of the 1970s was towards inflation. During the early 1970s, governments in countries that belonged to the Organisation for Economic Co-operation and Development (OECD) tended to accept the trade-off view of the relation between unemployment and inflation. Although they wanted to avoid a continual upward ratchetting of inflation, they seemed willing to live with the current rate of inflation, which was then in the 3 to 6 per cent range in most countries, rather than wage an all-out campaign to reduce it. By the end of the 1970s, however, the rate of inflation was nearing, or had passed, the 10 per cent level in many of these countries. Particularly after the second OPEC oil increase, which occurred in 1979–80, most of the Western industrial nations became much less willing to accommodate inflation. What were the causes of this change?

Some analysts have argued that the combination of rising inflation and falling real economic performance (slower real growth and higher unemployment) in the 1970s indicated that inflation *causes* poor real economic performance. This case is not easy to establish because of three strands of the 1970s experience.

Clearly, the relationship between economic performance and inflation during the decade was not causal. The oil-price shocks raised inflation, lowered real demand for goods and services, and probably lowered their real potential supply, as producers economized on the use of petroleum at the cost of some loss to their potential production with any given amount of labour and capital. The slow-down in the underlying trend of productivity growth, which some, though not all, analysts identify, also tended to worsen both real performance and inflation. These adverse “supply-side” shocks, although important to an understanding of economic development in the 1970s, do not imply a causal relationship running from inflation to real economic performance. In particular, few economists think that a more clearly anti-inflationary demand-management policy would have affected the size or the real impact of those supply-side shocks in any basic way, for better or for worse.

A second strand in the relationship between inflation and real economic performance involves the effect of inflation on demand. It is possible that an increase in the rate of inflation, in particular an increase that is not a direct result of a shock such as the escalation of world oil prices, might depress an economy's real demand for goods and services. In the absence of a fully indexed tax system—a system with inflation adjustments for capital consumption allowances, inventory costs, interest deductions, capital gains, and so on—inflation is likely to reduce the real after-tax rate of return on investment. All other factors being equal, this effect will discourage capital investment. Long-term investment is particularly sensitive to uncertainty about future rates of inflation and interest rates, and uncertainty can

reasonably be expected to be greater when inflation averages 10 per cent than when it averages 2 to 4 per cent. Moreover, inflation may depress capital investment that depends on financing amortized over a long period of time, such as mortgage financing for construction, because inflation increases "front-end loading": that is, the real cash flow that must be allocated to debt servicing in the early years of amortization.¹³ Inflation is also likely to raise nominal personal savings rates, but it simultaneously increases nominal personal interest income. Finally, if a country's rates of inflation are higher than those in competing countries and are not fully offset by exchange-rate depreciation, the result is a loss of competitive strength and thus further weakness in demand.

In these instances, causation runs from inflation to real demand, which, in turn, has effects on economic performance. In theory, the effects can be offset by various institutional adjustments, such as indexing the tax system as it applies to business income, interest and capital gains; introducing indexed or graduated-payment bonds and mortgages; letting nominal government deficits rise both to offset the higher nominal personal savings corresponding to the "inflation premium" component of interest income and to reflect the decline in the real value of government-debt costs; and appropriately depreciating exchange rates.

Some of these adjustments occurred in Canada during the last decade. There were various *ad hoc* increases in investment incentives in the tax system, although economists debate whether they fully offset the interaction between high inflation and the lack of an "inflation-accounting" approach to the calculation of taxable income. There were some limited experiments with graduated-payment debt instruments to alleviate the front-end/loading problem with mortgages. The Canadian government ran deficits during the late 1970s that were probably high enough to offset roughly the inflation component of its public debt costs. Except between 1974 and mid-1976, Canada's exchange rate adjusted in a way that, by and large, offset any excess of domestic inflation over inflation experienced by our major trading partners. The presence of these adjustment mechanisms makes it unlikely that any major portion of the fall-off in Canada's economic performance after 1973 can be attributed to the aspects of inflation that reduce real demand.

A third strand in the relation between inflation and real economic performance is inflation's potential for impairing the functioning of the economic system. History and theory suggest that in situations of very high inflation, savings flows tend to be diverted from investments that have long-run productivity to various "inflation hedges" comprised of real estate and readily storable commodities such as gold and art. Meanwhile, many participants in the economy devote substantial amounts of time, effort and paperwork to keeping up with inflation information, resetting prices, minimizing average cash balances that are earning no return, and comparable activities; yet the complexity and uncertainty of many of these economic calculations presumably lessens the efficiency of the economy. In particular, uncertainty besets longer-term decisions so that investment planners generally shorten their time horizons with a resulting loss of attention to actions oriented to the longer-term future. Causation here clearly runs from inflation

to economic performance, although the worsening of the latter may accumulate only slowly and be reflected partly in recorded real-output statistics and partly in unmeasured inconvenience to various participants in the economy. Assessment of the quantitative importance of this category of inflation effects is necessarily speculative, even in the case of hyperinflation. Intuitive judgements of the importance of adverse impacts of this type, which arise from inflation in the 10 per cent range, suggest that the effects were probably slight to moderate and were generally not high enough to account at all fully for the productivity slow-down.

As we have noted, however, most OECD countries did harden their approach to inflation in the late 1970s, and they persisted in doing so even in the face of the severe recession of the early 1980s. Their governments were generally unwilling fully to accommodate even the direct inflationary effects of the second oil shock, whereas a number of countries, including Canada, had provided significant monetary and/or fiscal accommodation at the time of the first oil shock. Even in the spring of 1979, before the second oil shock, the Carter administration was obviously tightening the U.S. policy and thus making reduction of inflation a key medium-term goal, notwithstanding clear recognition that a period of above-average economic slack would likely be initiated in the process. In the United Kingdom, the Thatcher government has, of course, become noted for its severe anti-inflation measures, but the Labour government of Prime Minister James Callaghan had already moved to a basically non-accommodating stance in its last two or three years in office.¹⁴

It seems reasonable to suppose that in a number of these countries, an intuitive judgement—or fear—that inflation impairs real economic performance along one or more of the lines already suggested was one of the reasons for giving priority to policy meant to contain and reduce inflation. Other factors, however, were probably just as important or even more so. One was the growing recognition that, as explained in the preceding section, any real gains in economic performance resulting from the adoption of inflationary demand policies was likely to be short lived. In fact, given the probable sensitivity of expectations (particularly as they affected interest rates and exchange rates) to an indication that a government was prepared to accept higher inflation, stimulative policy might have accelerated inflation more rapidly than historical relationships suggested, and any gains in real activity levels would have been particularly brief.

The notion of learning to live with relatively high rates of inflation has not been appealing. Neither governments nor the general public have shown a desire to make the institutional changes, including indexation of various types, that would be required to ease at least some of the problems associated with living with, say, 10 per cent inflation. Continuing inflation in this range creates serious inequities. (The largest readily identifiable group of “losers” consists of elderly people whose pension rights are not protected by full indexation, or who have significant savings invested in such a way that they are not able to take advantage of high interest rates.) Furthermore, the political viability of maintaining a fairly high rate of inflation is open to question. If a government is prepared to tolerate 10 per cent inflation, why

should people believe that it will take decisive action to prevent a climb to 11 or 12 or 15 per cent or even higher? Sooner or later, the public will reject high inflation, whether it is climbing steadily or intermittently, and demand that it be controlled at what is generally accepted as a low level.

The difficulty of the process of adjustment varies, of course. The higher the rate of inflation, and the more firmly entrenched inflationary expectations have become, the more difficult adjustment becomes. Moreover, the authorities have a range of choices about the degree and pace of the reduction. Most of the major members of the Organisation for Economic Co-operation and Development initially opted to curb inflation gradually. (A partial exception was the United Kingdom, which started its process of adjustment from cost inflation of 15 to 20 per cent.) However, the United States, in 1979, and Canada, in 1980, decided to accept the risk of recession and adjusted their monetary policies in order to reduce inflation more sharply.

In sum, the tendency among the industrial nations to give priority to anti-inflation measures in the late 1970s and early 1980s did not reflect conclusive new evidence of the adverse effects of inflation on economic performance.¹⁵ Neither was it based on carefully calculated comparisons of the likely courses of economic performance under combative and relaxed attitudes towards inflation. Rather, it reflected a widespread judgement—almost, one might say, an instinct—that to accommodate high and rising inflation was simply no way to run an economy. This view was perhaps based as much on fear of the possibility that ever-increasing inflation could, at some unpredictable point, lead to major economic collapse and social and institutional upheaval as on the probability that over some specified period, average real living standards would become x per cent lower if inflation were allowed to continue.

The Implications of an Open Economy for Demand-Management Policy

We have already noted that modern macro-economic analysis had its genesis in Keynes' *General Theory*. As its title indicates, this was a work of economic theory; moreover, it dealt primarily with a closed economy: that is, one that neither trades nor engages in capital-market transactions with the outside world. The subsequent development of Keynesian thought, particularly the systematic explication of its implicit policy conclusions, tended to be dominated by the work of economists based in the United States, where, in the 1940s and 1950s, the hypothesis of a closed economy closely coincided with the nature of the country. For that reason, analysis of the problems of an open economy, which is of particular relevance to Canada, was rather slow in coming.

To adapt Keynes' theories to the dynamics of an open economy required economists to broaden their understanding of issues involving the international balance of payments, as well as to develop a clearer knowledge of the implications of monetary and fiscal policy changes in an economy that is exposed to the world through the trade and capital flowing across its borders. Subsidiary considerations included adapting early ideas about policy in an

underemployed economy to a fully employed economy, a process so much more relevant in the first two decades after the Second World War, and in due course, the creation of a body of analysis directed at understanding the inflationary process in an open economy.

Without doing too much violence to historical accuracy, we can begin to describe these developments by examining what is referred to as the “elasticities approach” to the balance of trade: that is, the sensitivity to changes in the exchange rate of the quantity of exports times their price, minus the quantity of imports times their price. In the 1930s, many governments resorted to devaluation of their currencies, in an effort to promote their exports by making them cheaper abroad and to cut back on imports from abroad, many of which competed with domestic goods, by making them more expensive at home. Many economists of the day thought that whether an individual country could sustain such a policy—quite apart from whether many countries could succeed in using the same remedy simultaneously—depended on the sensitivity of home demand for imports and of foreign demand for exports. The explanation of their thinking may be found in the extreme example in which both export and import demands are completely insensitive to price. Devaluation can then do nothing to improve the demand for domestic output and will clearly lead to a deterioration of the trade balance. In terms of foreign currency, for instance, the amount received in payment for exports will decline as a result of the depreciation of the exchange rate,¹⁶ while the amount paid for imports will remain unchanged.¹⁷

As demand sensitivity to prices increases, this extreme outcome begins to change. The quantity of goods imported will fall as their domestic prices rise, and the quantity of goods exported will increase as their foreign prices fall; thus aggregate demand will certainly expand. Whether the balance of trade will improve, however, depends on the sensitivity of the demand responses in question. If quantities demanded change only slightly in response to price, the balance of trade will continue to deteriorate. If demand is sensitive enough, however, the balance of trade will improve. The sensitivity of demand to price is called “elasticity”; this factor is computed as the ratio of the percentage change in quantity demanded to the percentage change in price. The precise break-even point—the point at which there will be no change in the trade balance—lies where the sum of the price elasticities of demand for imports and exports is unity.

Given the critical function that this analysis ascribed to elasticities of demand (and of supply, in more elaborate versions), it is hardly surprising that from the late 1930s to the early 1950s, there was much debate among economists about the precise statistical degrees involved. Those who were pessimistic about the elasticity of demand to price changes doubted that devaluation could much improve trade balances, while those who were optimistic held the opposite view. The argument was not solely academic. Pessimism about the elasticities of prices must lead to the conclusion that a regime of flexible exchange rates is inherently unstable: because the exchange rate of a trade-deficit country tends to fall under such a regime, it exacerbates the deficit, setting up a vicious circle of falling exchange rates and deteriorating trade balances. Hence, in the political sphere, pessimism about

elasticities was strongly associated with interventionism in the exchange market and often with more general economic intervention.

After the Second World War, it soon became apparent that the elasticities approach provided only partial analysis of the balance of trade in a world in which low employment levels were the norm. The unqualified elasticities approach presumes the existence of a stock of unemployed resources that can be drawn on to meet the extra demand for exports and import substitutes that results from a successful currency devaluation. A fully employed economy does not have such a stock; it cannot expand supply for foreign trade without diverting resources from other uses in the economy.

Here we have the fundamental insight of what came to be called the “absorption approach” to balance-of-payments analysis: that a country in which domestic absorption (that is, consumption plus investment plus government expenditure) exceeds the economy’s productive capacity is bound to have a balance-of-trade deficit, regardless of the exchange rate, because it must import goods and services to meet domestic demand. Two corollaries follow. One is that a country with a fully employed economy can improve its trade balance through devaluation only if it takes simultaneous measures to reduce domestic demand, thus making resources available for the production of exports. The second corollary is that the successful operation of a regime of flexible exchange rates requires attention to the level of aggregate domestic demand.

That second corollary required economists to extend their analysis of demand-management policy. One of the most important examples of this extension was the Mundell-Fleming model, named for the Canadian and British economists who independently developed it. This model was essentially an open-economy version of the closed-economy macro-analysis popular in the 1950s and early 1960s, which we have already described. Today we see that this model had serious shortcomings; specifically, it concentrated on macro-economic policy’s influences on levels of income and employment, using three unhelpful assumptions: that the economy was chronically underemployed; that its price levels were fixed for the foreseeable future; and that people expect the exchange rate to remain static. Nevertheless, this analysis yielded two insights of lasting importance for macro-economic theory. First, it stressed, as earlier analysis had not, that the balance of payments consists of more than the trade balance: it also includes the balance of capital flows, to which economists and policy makers must pay attention in devising economic policy in an open economy. Secondly, the analysis clearly demonstrated the fact that in an open economy, the manner in which domestic policy impinges on purely domestic goals, let alone on the balance of payments and exchange-rate targets, depends on the nature of the country’s exchange-rate regime. According to the Mundell-Fleming model, a country with fixed exchange rates could use fiscal policy, but not monetary policy, to pursue domestic income and employment goals. Flexible exchange rates reversed the possibilities.

This conclusion, the precise form of which is nowadays of more academic than practical interest, followed from consideration of the effects of capital flows in determining the balance of payments under fixed exchange rates and

in influencing exchange rates under a flexible system. In particular, the model assumed that international capital flows were highly elastic (at the extreme, perfectly elastic) in response to interest-rate differentials. Thus, in a country with a system of fixed exchange rates, any attempt to lower interest rates through an increase in the money supply would be frustrated by the reaction of the international capital market, whose funds would flow out to take advantage of higher interest rates elsewhere. By the same token, an expansionary fiscal policy would not be offset by rising domestic interest rates as it would be in a closed economy. Rather, capital inflows induced by a tendency of domestic interest rates to rise would ensure that expansionary fiscal policy could simultaneously increase domestic income and improve the overall balance of payments. Although domestic credit does not expand in the model, the money supply does, in response to the capital inflow to neutralize upward pressure on interest rates and the exchange rate.

Under a flexible system of exchange rates, however, capital inflows generated in response to the incipient increase in interest rates which results from the expansion of fiscal policy would drive up the exchange rate.¹⁸ This appreciation, which would make exports more expensive abroad and imports cheaper at home, would tend to go on until the effect of expansionary fiscal policy on domestic output was offset by a change in the real balance of exports and imports. An expansionary monetary policy, however, would drive down a flexible exchange rate through its incipient downward pressure on interest rates, affecting domestic income and employment. Therefore, it was argued, a regime of flexible exchange rates would restore the potency that monetary policy was thought to have in a closed economy. The model simply transformed the route by which policy would have its effects; that route would cease to be one primarily involving changes in interest rates and become one primarily involving changes in exchange rates.

The late 1960s and early 1970s witnessed major growth in both the size and the efficiency of world-wide capital markets. The same period also saw the emergence of inflation as a world-wide problem. Macro-economic theorists working on open economies began to incorporate these developments, as they did the subsequent breakdown of the system of (more or less) fixed exchange rates that had been established shortly after the Second World War and the international financial turbulence of the 1970s and 1980s.

Two contemporary ideas profoundly influenced economists' views about the manner in which macro-economic policy should be conducted in an open economy. These were monetarism, which insisted, particularly, on the central importance to the inflationary process of the interaction of the supply and demand for money, and the development of the expectations-augmented Phillips curve, which was important to the understanding of the relationship between inflation and unemployment. The monetary approach to analysis of the balance of payments and exchange rates emerged, in the early 1970s, from the work of Canadian economists Robert Mundell and Harry Johnson, among others. With benefit of hindsight, it can be seen both as a major extension of the Mundell-Fleming model and as an attempt to overcome the shortcomings of that earlier analysis. This new approach focused on a world

in which prices were not assumed to be stable, but rather one in which inflation was a central policy problem. Taking up Friedman's insight, this approach identified as the key factor underlying longer-run inflation the interaction of the supply of, and demand for, money, both in the world economy as a whole, under fixed exchange rates, and in individual open economies, under flexible rates.

This analysis also pointed out that the way in which expectations about inflation are formed differs under fixed and flexible exchange-rate regimes. Under a fixed system, an individual economy, especially a relatively small one, cannot long sustain a rate of inflation very different from that prevailing abroad. Therefore expectations about the prospects for inflation in that country must be based primarily on views about the prospective levels of inflation in the rest of the world. A system of exchange rates that are flexible, however, permits participants in the economy to draw their expectations from the domestic scene. In other words, a flexible exchange rate permits an open economy to have not only its own "made-at-home" inflation *rate*, but also its own inflation *expectations*.

A detailed review of current macro-economic theory relating to the open economy is unnecessary, but it is useful to mention one or two highlights. Modern analysis makes it abundantly clear that, contrary to the Mundell-Fleming model, adopting a flexible exchange rate does not turn an open economy into one that for the purposes of conducting policy may be treated as if it were closed. Flexible rates do give an open economy latitude in choosing its own long-run inflation rate, but they do not insulate it from the short-run, but often severe, effects of monetary turbulence abroad. Examples of these often-widespread effects include transmission of pressures on interest rates from one country to another and wide swings in exchange rates that are not directly related to differences in inflation rates, that is, wide swings in real exchange rates. Neither do flexible exchange rates insulate an economy from such real shocks as world-market changes in the relative prices of energy or raw materials. Moreover, since flexible exchange rates are determined in extremely efficient markets, a country has great difficulty exploiting any short-run trade-offs between inflation and unemployment that closed-economy analysis suggests. In fact, there is always a distinct possibility that domestic policy changes in an open economy may have their first effect, not on output and employment, but on exchange rates and, thereby, on domestic prices.

What general conclusions can be drawn from this brief and necessarily oversimplified account of the evolution of the macro-economic theory of the open economy? Above all, this theory increasingly stresses that the pursuit of domestic policy goals is interdependent with actions affecting the balance of payments and exchange rates. Moreover, the complex nature of that interdependence suggests that there are important limits to the actual policy independence possessed by the authorities of an open economy such as Canada. With a flexible exchange rate, we Canadians can choose our long-run inflation rate, and to that extent we can have a "made-in-Canada" macro-economic policy. We cannot, however, insulate our economy from foreign monetary developments in the short term or from real developments.

Moreover, because the workings of international capital and exchange markets can so limit, both in duration and scope, the potential of our monetary and fiscal policies for affecting real demand, the effect of our policy actions on domestic and foreign expectations—that is, on confidence—is especially important.

These conclusions are very different from those formed by macro-economists of the early post-war period, which seemed to suggest that the authorities of a country such as Canada had broad scope to fine-tune the performance of their domestic economies. Views on these matters have shifted for two reasons. First, understanding of the way in which the economy works has changed. To some extent, the current, more pessimistic view of the possibilities of fine-tuning the economy are based on analyses of interactions that have long been at work in the world, but that earlier analyses failed to take into account. However, the second reason—one that encourages Commissioners to take those views seriously—is the changed nature of the world. The international economy is much more integrated now than it was 20 or 30 years ago. In particular, the world capital market has been transformed beyond all recognition, both in size and efficiency, reducing the latitude available to the government of an open economy to pursue autonomous macro-economic policies.

Commissioners have noted at several points in this Report the great benefits that accrue to Canada from its participation in a liberal international economic order, and we have argued that further liberalization of the international economy is highly desirable. Although we believe that the gains of such a policy would outweigh the costs, we must, nevertheless, note that this international integration has imposed costs on Canada in the form of exposure to external shocks and considerable loss of domestic autonomy in short-run macro-economic policy matters.

The Budget Deficit: An Independent Constraint on Policy?

Are budgetary deficits of the magnitude of the current Canadian and U.S. federal deficits in themselves a matter for economic concern? In the past, economists who subscribed to Keynesian views on demand management usually argued that the size of the deficit was not a matter for concern. The important point was “to balance the economy” rather than “to balance the budget.” These economists did not argue that the amount of the deficit should be limitless, but rather that the size of the deficit should be determined only by what was required to provide the appropriate amount of aggregate demand in the economy. Such economists also argued that since public debt is often held largely by citizens of the country, a situation which certainly applies to Canada’s federal debt, it is an obligation that the people of a country mostly owe to themselves. For this reason, it does not impose a burden on a nation as a whole, comparable to the burden that exists when an individual or a firm is in debt to someone outside the family or corporate group.

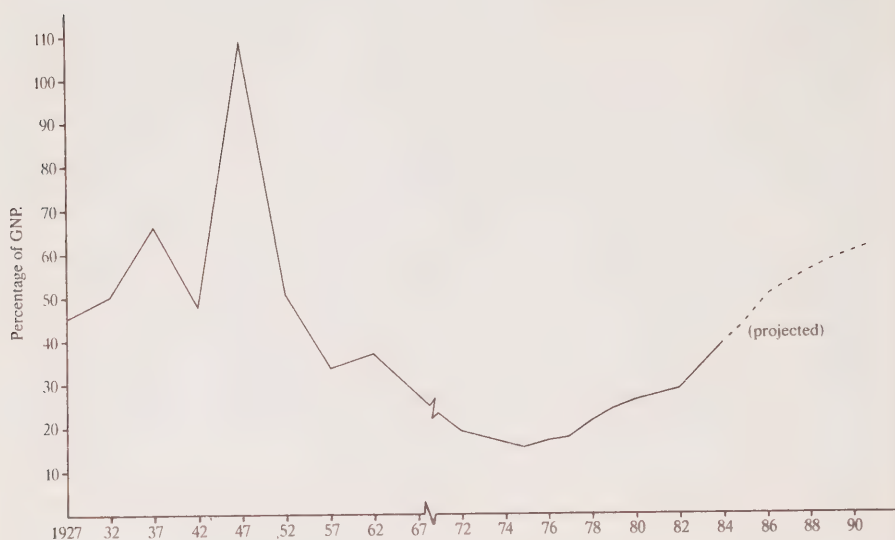
The first consideration in looking at deficits is their implications for the growth of government debt relative to the size of the economy. If the ratio of

the debt to the size of the economy is constant or decreasing, it is difficult to argue that the deficit presents an imminent crisis or is unsustainable, although it may be cause for continuing concern. Figure 10-1 shows the ratios of net debt of the Canadian federal government to gross national product (GNP), which is a measure of the size of the economy, for the fiscal years from 1927 to the present, plus projected values for fiscal years from 1985 to 1991. At the beginning of the period, the debt/GNP ratio was high, reflecting the large deficits incurred in the First World War; it increased significantly during the Depression and then jumped dramatically as a result of heavy deficit financing during the Second World War. From the end of the war until fiscal 1975, the federal government ran surpluses in some years and relatively modest deficits in others. On balance, the dollar value of the net debt outstanding increased moderately, but it grew much less rapidly than the economy, so that the debt/GNP ratio fell dramatically. By fiscal 1975, it was much lower than it had been at any time since the First World War. Since 1975, however, the size of deficits has driven the outstanding debt up more rapidly than GNP has increased, and the same trend has continued very much more rapidly since fiscal 1982. The current debt/GNP ratio is more than double its 1975 value, though it is still substantially below the levels experienced from the First World War to the early 1950s. The projections for the next seven years, which were based on the tax and expenditure structure in place before the November 1984 fiscal statement and reasonably favourable economic assumptions, show the debt/GNP ratio as continuing to rise. Measures announced in November 1984 and not reflected in the projections shown were expected to moderate, but not reverse, this upward trend.

The debt/GNP ratio will rise as long as the ratio of the deficit to GNP exceeds the rate of GNP growth multiplied by the ratio of the outstanding debt to GNP. With the federal government's net debt standing currently at some 40 per cent of GNP and nominal GNP growth in the 7 per cent range (representing roughly 3 per cent real growth plus 4 per cent inflation), a deficit equal to 2.8 per cent of GNP (that is, 7 per cent of 40 per cent) would entail no change in the debt/GNP ratio. However, the budgetary deficit for fiscal 1985 is projected at \$35.8 billion, which is some 8.5 per cent of GNP, and even assuming sustained recovery, the deficit prior to the May 1985 budget measures was projected at about 6 per cent of GNP for fiscal 1991.

Another useful reference point in considering deficits and debt is the budget balance excluding net public debt charges (that is, net of government investment income), which is sometimes called the "primary balance". (See Figure 10-2.) Debt would grow in lock-step with GNP if the primary balance were zero and the average interest rate paid by the government on its debt were just equal to the growth rate of nominal GNP. In fact, however, current interest rates are higher than the expected average rate of GNP growth. Under these circumstances, the primary balance must be in surplus to avoid an increase in the debt/GNP ratio. Nevertheless, the primary balance for Canada is currently in a deficit equal to roughly 4 per cent of GNP, and projections prior to the May 1985 budget showed that even by fiscal 1991, it would decline only to about 1.25 per cent of GNP.

**FIGURE 10-1 Government of Canada: Net Public Debt
as a Percentage of GNP**



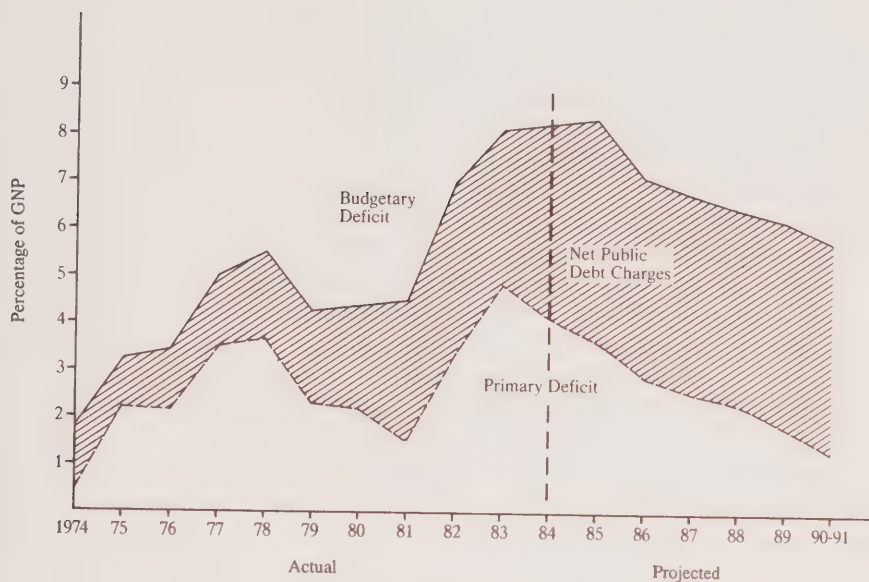
Source: Projections calculated from Minister of Finance, Government of Canada, *A New Direction for Canada*, November 1984.

Notes: The projected values are based on the "status quo" projections in the federal government's fiscal statement of November 1984. These projections assumed the existing tax structure and the expenditure programs and plans that had then been enacted or put before Parliament, but they did not allow for measures introduced in that statement. They also assumed reasonably favourable economic conditions: an average annual rate of real growth of more than 3 percent, a gradual decline in the unemployment rate to 7 per cent by 1990; and a substantial decline in nominal and real interest rates.

The Canadian federal deficit is clearly of a magnitude, even if it should be reduced automatically by further economic recovery, to raise serious questions about its sustainability. The federal budgetary structure prior to the May 1985 budget implied continuing increases in the debt/GNP ratio and, if all other factors are equal, a rising ratio of interest charges to GNP. Just to cover the increases in interest charges would mean continuing increases in tax rates, continuing reductions in expenditures, or carrying still higher deficits. These implications for the government's fiscal position and for future tax and expenditure levels probably provide the clearest reasons for concern about the size of Canada's current and projected deficits.

Another frequent concern is that high deficits or debt tend to "crowd out" private investment, thus reducing future prospects for economic growth.¹⁹ In an open economy, high deficits also tend to crowd out net exports. (The impact of the government deficit on net exports can be offset by other factors, such as high private savings, a phenomenon currently apparent in Canada.) Crowding out can occur through upward pressures on interest rates and/or

**FIGURE 10-2 Government of Canada:
The Primary Deficit and Net Public Debt Charges
as a Percentage of GNP**



Source: Government of Canada, Dept. of Finance, *A New Direction for Canada*, 1984.

exchange rates deriving from the government's demand for capital financing.²⁰ Many analysts attribute, at least in part, the high levels of real interest rates that have prevailed internationally since 1982 to the large government deficits being run by many countries, especially by the United States, given its importance in the world's capital markets.

A final criticism of high deficits and debts is that they make governments vulnerable to increases in interest rates and constrain their ability to manoeuvre. In particular, they reduce governments' ability to take expansionary fiscal action.

Before leaving this analytical consideration of deficits, it is appropriate to ask why the Canadian deficit has grown to be such a major problem and to examine the circumstances under which it would be reasonable to anticipate bringing it under better control. As we have already noted, at the end of the Second World War, the federal government faced a huge debt, amounting to some 100 per cent of GNP. Over the ensuing 30 years, however, that debt fell almost continuously as a percentage of GNP, and in more than half of these years, it fell absolutely. As a result, by 1975, Canada's federal net debt was only 15.5 per cent of GNP. During the last half of the 1970s, however, the budgetary deficit increased substantially; it averaged more than 3.5 per cent of GNP from fiscal 1976 to 1982 and then ballooned with the severe recession that began in the latter year. These enlarged deficits caused the debt/GNP

ratio to rise again; it reached 26 per cent by 1980 and more than 40 per cent in March 1985, a figure higher than that for any year since the beginning of the 1950s.

This pattern is not unique to Canada. Beginning in about 1975, almost all developed countries moved from the relatively balanced budgets of the post-war period to large deficits. As a result, the total government debt outstanding for some 17 OECD countries increased from about 40 per cent of GNP in 1970 to 51 per cent in 1983.

Why did almost all developed countries suddenly experience this shift after three decades in which debt and deficit problems were almost non-existent or, at most, easily manageable? To understand the reason, it is helpful to take into account some simple arithmetic that applies to deficits. If we leave aside for the moment the balance of exports and imports, economic logic dictates a precise relationship between the surplus or deficit of the government and the corresponding surplus or deficit of the private sector. A private sector surplus is defined here as an excess of private sector savings over private sector capital spending. If the government sector is running a deficit of a given size, the private sector must have a surplus of the same size. Thus, the sudden rise in government deficits after 1975 had to be matched by an equal rise in private sector surpluses.

Of course, simple arithmetical relationships do not, in themselves, say anything about causation. Do high private sector savings cause larger government deficits, or is it the other way around? In 1982, at least, the direction of causation seems clear. Private sector capital spending in Canada (including changes in inventory) fell from 21.8 per cent of GNP in 1981, to 16.1 per cent in 1982. That sharp decline caused income to fall, thus reducing government revenues, while increased unemployment produced correspondingly higher government expenditures. Because the fall in private spending was so large, the increase in government deficits was also very large.

Since 1982, savings in the private sector have continued to be relatively high, while its capital spending has remained weak. Necessarily, the government-sector deficit has been large. Thus, the process of restoring Canada's fiscal balance will have to involve a recovery in private capital spending and perhaps some reduction in the relatively high savings rate.

The preceding analysis, however, does not take account of the foreign sector: that is, our imports and exports of goods and services and the differences between them. If we expand our consideration to include the balance on current account, we must modify our simple arithmetic. For example, a government deficit may be partly offset by a private sector surplus and partly by an excess of imports over exports. Such an excess implies that foreign savings are being drawn on to help finance the government deficit. (This is exactly what is occurring on a large scale in the United States at the present time.)

The relationships between the balances in the government sector, the private sector, and the foreign sector are shown in Table 10-1 for the seven major industrial countries in the OECD from 1975 to 1982. As these data show, the foreign sector balances were usually small, and so there was a close relationship between government-sector deficits and private sector surpluses.

Leaving aside Italy (whose data may be distorted by a high inflation rate), Japan, West Germany and the United Kingdom averaged the highest government deficits, along with the highest private sector surpluses, over this period.

A review of the historical record suggests that the primary cause of the growth of government-sector deficits since about 1975 has been a private sector weakness in capital spending in relation to savings rates. We have already noted the Canadian data. Since both Japan and West Germany have long had reputations for high savings rates, it is not surprising to find them running large private sector surpluses.

This view of the cause of larger government deficits is supported by data on the behaviour of gross capital formation in the OECD countries. From 1960 to 1973, real gross capital spending increased at an average of 6.3 per cent per year. Over the following eight years, this growth rate fell sharply to a mere 0.3 per cent; in other words, capital spending levelled out almost completely after 1973. For the European members of the OECD, the decline was even sharper: from 5.5 per cent for 1960–73 to –0.7 per cent for 1973–81. This Commission's research program did not explore the causes of this sudden and severe change in the pattern of capital spending in Europe after 1973. Some analysts have suggested, however, that it resulted, at least in part, from levels of real wages that were excessively high in relation to productivity and thus curtailed the prospective profitability of new investment. As we noted earlier, Canada experienced no downward shift in the investment share of GNP until

TABLE 10-1 Sectoral Balances of the Seven Major Industrialized Countries of the OECD, 1975 to 1982

Country	(percentage of GDP)		
	Government-Sector Deficit	Private Sector Surplus ^a	Foreign-Sector Balance ^b
United States	–1.6	+1.8	0.0
Japan	–4.1	+4.6	–0.3
West Germany	–3.5	+4.2	0.0
France	–1.3	+0.4	+0.9
United Kingdom	–3.5	+3.9	–0.4
Italy	–9.9	+9.6	+0.4
Canada	–2.6	+1.1	+1.0

Source: Calculated from data given in Robert W.R. Price and Jean-Claude Chouraqui, *Public Sector Deficits: Problems and Policy Implications*, Occasional Studies, OECD Economic Outlook (Paris: OECD, 1983), p. 21.

- a. Private sector surpluses estimated as the sum of household and corporate sectors.
- b. A positive foreign-sector balance indicates a positive foreign contribution to savings; that is, a current account deficit. A negative foreign-sector balance indicates that a portion of national savings was provided to the rest of the world; that is, that the country ran a current account surplus.

after 1981, although our savings have tended to be relatively high since 1973, particularly if the measure includes no adjustment for the distorting effect of inflation on personal savings. We cannot be certain whether the decline in investment in Canada since 1981 has been entirely a cyclical development that is likely to be reversed, or whether a part of it was the result of some fundamental weakness.

Finally, it seems useful to consider what changes Canada would require in the present pattern of private capital spending and savings if the private sector is to return to the balanced position that would eliminate the government deficit, without help from the foreign sector. From 1982 to 1984, private sector capital spending averaged about 16.5 per cent of GNP, that is, about 3.5 percentage points below the average that prevailed during the 1947-81 period. To return to an average 20 per cent level would require an increase in private capital spending in the order of \$14 billion (based on the GNP expected by mid-1985). The average private sector savings rate from 1982 to 1984 was 22.8 per cent of GNP. To reduce this amount to match a 20 per cent capital-spending level would require an increase in consumer spending of some \$12 billion. Thus, to enable the government to bring its budget back to a balanced position would require a net increase in private sector spending of some \$26 billion.²¹

Although the view is widespread that Canada's deficit should be substantially reduced as the economy recovers, there is much less agreement as to whether it would be desirable to reduce the deficit sharply before recovery is further advanced. There is also little agreement on means to promote the increase in private capital spending and the reduction in private savings that are a necessary counterpart of deficit reduction.

An argument can be made that even in Canada's current circumstances, a reduction of the deficit would have significant favourable effects on expectations about inflation and interest rates. Action to reduce the deficit now, so this argument goes, would lessen fears that continuing high deficits may eventually lead the central bank to increase the growth rate of the money supply in order to accommodate the deficit, with inflationary consequences. Fears of such future inflationary dangers may be helping to keep current interest rates high. Under these circumstances, it is conceivable that the favourable effects on interest rates and confidence would have a large enough impact on investment and other components of demand to offset, more or less, the direct negative effects on demand from the requisite expenditure reductions or tax increases.

The more widely accepted view among economists, however, is that deficit reduction could affect interest rates favourably, but not sufficiently, in the short run, to offset direct effects on demand. Given the importance Commissioners attach to avoiding further increases in unemployment, it might be preferable to defer any substantial reduction in the deficit until recovery is further advanced. We would, however, modify our view on the timing of a significant move towards deficit reduction if such a cut-back could be coupled with an easing of monetary policy sufficient to offset, or more than offset, the effect on demand and unemployment in the short term. We shall return to this possibility later in this chapter.

Notes

1. This outline owes more to the simplifications of Keynes, found in the elementary economics texts of the 1950s and 1960s, than it owes to Keynes' own complex and subtle work. We do not wish to create the impression that all macro-economists immediately accepted Keynes' analytical framework. We concentrate on his work because it was vital to the development of macro-economics, and because it gained increasingly general acceptance over the 1940s and 1950s. See John Maynard Keynes, *The General Theory of Employment, Interest and Money* (London: Macmillan, 1936).
2. "Final" goods and services do not include inputs into the production of other goods and services, nor do they include items produced before the current measurement period.
3. Professor Phillips made important contributions to the analysis of the implications of lags for the conduct of policy.
4. According to another view of the short-run relation between higher wage increases and lower unemployment, the causation runs the other way: that is, workers, are more willing to supply labour when wages appear to be higher.
5. The long-run trade-off curve might even become positively sloped (more inflation associated with more unemployment) rather than vertical (more inflation associated with no reduction in unemployment) if higher inflation causes labour markets to function less efficiently.
6. This review of the relation between inflation and the NAIRU disregards sources of inflation (or deflation) other than excess demand. Such other factors may temporarily disturb the relation between changes in inflation and the level of unemployment. For example, an adverse supply shock, such as a sudden rise in the price of oil imports, might cause inflation to increase temporarily, even if the current unemployment rate happened to be at a level generally considered to indicate significant labour- market slack (that is, above the NAIRU).
7. This analysis of interest rates and expected inflation, while mentioned at this point in our account, has long been familiar; it was introduced just before the turn of this century by the American economist Irving Fisher.
8. It might still, however, pose cash-flow problems for borrowers. See the treatment of the "tilt" or "front-loading" effect later in this chapter.
9. Some economists, most recently Michael R. Darby *et al.* in *The International Transmission of Inflation* (Chicago: University of Chicago Press, 1983), argue that the oil-price shock and other large raw-material price increases of the 1972–74 period were not accidental exogenous events; rather they were attributable, at least in considerable part, to excessive demand among the industrialized nations generally, which in turn resulted from excessive monetary growth in the late 1960s and early 1970s.
10. Keynes himself should be held blameless for the lack of attention to expectations. For him, they were of major importance, though not necessarily in the ways emphasized in recent analysis.
11. See, for example, R.P. Shaw, "The Burden of Unemployment in Canada", *Canadian Public Policy* (forthcoming).
12. Canada, Department of Reconstruction and Supply, *Employment and Income* (Ottawa: King's Printer, 1945).
13. If nominal interest rates increase in line with inflation, as they usually do, the nominal repayment stream, which is traditionally constant, tilts, becoming higher, in real terms, in the initial years of the repayment period and lower towards the end. For example, given a 25-year mortgage with a 5 per cent real interest rate, the annual payments per \$100 of principal are \$7.10 under zero inflation and \$15.93 under 10 per cent inflation (15 per cent nominal interest rate). The latter

stream, which has the same real present value as the former, entails a real payment of \$14.49 in constant dollars (in which the \$100 principal was measured) in the first year, roughly twice the level of the no-inflation case, but that payment falls to \$1.47 in constant dollars after 25 years, about one-fifth the level of the no-inflation case. Thus inflation is said to front-load the real payment stream when the interest payments (or the combined interest and repayment-of-principal payments used in a conventional mortgage) are constant in nominal terms.

14. In 1976, Prime Minister Callaghan stated at the Labour Party Conference in Blackpool:

We used to think that you could just spend your way out of a recession and increase employment by cutting taxes and boosting government spending. I tell you in all candour that that option no longer exists and that insofar as it ever did exist, it worked by injecting inflation into the economy. And each time that happened, the average level of unemployment has risen. Higher inflation followed by higher unemployment: that is the history of the last twenty years.

15. In fact, some countries, such as Brazil, Israel and Iceland, have succeeded, over fairly extended periods, in combining high rates of inflation with real economic performance that is not obviously worse than average.
16. Notice the assumption that export prices are set in the domestic market. If they are set in foreign markets, as they are in a small open economy, devaluation leaves unchanged export prices, export revenues in foreign currency, and the trade balance.
17. Alternatively, viewed in terms of the domestic currency, the deterioration of the trade balance results from an increase in the cost of imports, with no offsetting gain in export receipts.
18. By contrast with the fixed exchange-rate case, this model implicitly assumes that the money supply would remain on some given path that was independent of the fiscal policy action.
19. The combination of the rapid growth in debt resulting from high deficits and of crowding out of private investment with the accompanying reduction in total GNP growth prospects, has the potential to create a vicious circle of low growth and spiralling debt/GNP ratios. Among other economists who have made this point is Professor James Tobin of Yale University, who advocates a sharp reduction in the size of the U.S. federal deficit.
20. In an open economy with a flexible exchange rate, crowding out may well operate to a more important degree through the exchange rates on net exports than through the interest rates on physical capital investment. Thus, in an open economy, crowding tends to be reflected more in decreases in the stock of total assets (physical capital *plus* set foreign assets) owned by residents than in the physical capital stock located in the country.
21. Commissioners do not wish to suggest that a reduction in the government deficit all the way to balance is necessarily desirable.

The Conduct of Fiscal and Monetary Policy

Clearly, a government's overall monetary and fiscal policies exercise a major influence on the growth of the economy's nominal demand. Less obvious is the degree to which demand-management policies result in a change in the volume of output as compared with a change in the overall price level. The current conventional view is that a speed-up or slow-down in the growth rate of nominal demand will initially be reflected largely in a speed-up or slow-down in real output and an accompanying fall or rise in unemployment. As time passes, however, less and less of the change will be reflected in higher or lower output and more and more of it in a faster or slower rate of inflation. Before considering the policy implications of this rule of thumb, it is worth reviewing the post-war record of fiscal and monetary policy.

Retrospective

It takes only a few historical highlights to illustrate the tendency of the Canadian economy to encounter the same problems repeatedly. The same history also indicates the way in which the analytical economic framework and the objectives and application of policy have evolved in response to experience.

In 1945, the Canadian government, in its White Paper on Employment and Income, adopted the maintenance of a "high and stable level of employment and income . . . as a major aim of Government policy."¹ Although it did not attempt to quantify this goal, the government, having witnessed the double-digit unemployment rate of the 1930s, might well have expected even "high employment" to involve an unemployment rate somewhat higher than the 2 to 4 per cent level that characterized the first decade following the Second World War.

By the late 1950s, the authorities were troubled by the slow response of inflation to conditions of economic slack. "This tendency toward rising prices, particularly in a period of recession, is a matter for concern," the federal government asserted in the 1959 budget speech. It expressed strong determination to resist inflation and confidence that it was "well within the power of Canadians to achieve reasonable price stability without sacrificing either immediate recovery or balanced growth".²

In 1964, the Economic Council of Canada (ECC) published its first annual review, proposing medium-term goals of 3 per cent for the unemployment rate and less than 2 per cent for the average annual rate of price increases.³ The Council recognized that the combination of high employment and price stability had not been achieved over the 1945–63 period, but thought that this goal might still be attainable, given favourable international developments, advances in productivity, policies to increase mobility and adjustment in the Canadian economy, and "responsible restraint in both wage demands and business pricing policies."

In 1966, the Royal Commission on Taxation (the Carter Commission) advanced the view that the unemployment rate could usually be reduced to 4 per cent without development of any sustained inflationary pressure, but that

rates below 3 per cent were unsustainable.⁴ It advocated a short-term target of 3.5 per cent and considered the ECC's 3 per cent goal possible in the medium term. It also criticized the policy of the late 1950s and early 1960s for over-concern with inflation.

In 1968, the government, in a White Paper entitled *Policies for Price Stability*, stated, "It is becoming increasingly evident that, with the existing tools of economic policy, we cannot count on simultaneously maintaining the desirable level of employment and reasonable price stability."⁵ Stressing a determination to avoid inflation "without awaiting the harsh remedies which economic forces, given time, will otherwise administer", the White Paper specified some of the policy problems involved in controlling inflationary demand pressures:

- Lags in the impact of policy actions, coupled with the speed with which unforeseen demand pressures sometimes arise
- Uncertainty about the precise upper limits at which the economy can be permitted to operate relative to its capacity, before serious demand pressures and inflationary price increases develop
- Bottlenecks in particular sectors arising before high employment is attained generally and thus generating inflationary pressures.

The White Paper also put forward the government's response to inflation, which involved restraint in its spending on goods and services, coupled with tax increases, to achieve reduced deficits (or increased surpluses); structural measures concerning human resources and trade policy; establishment of the Task Force on Labour Relations to study the special problems of wage and salary bargaining in the public sector;⁶ and creation of the Prices and Incomes Commission to "inquire into and report upon the causes, processes and consequences of inflation and to inform those making current prices and income decisions, the general public and the Government on how price stability may best be achieved."⁷ A special Senate committee was also established.⁸

Monetary policy was tightened, but the fixed exchange rate of the day severely constrained the independence of Canadian monetary action. In 1970, however, the Canadian dollar was allowed to float; it began to appreciate significantly, unemployment increased, and inflation slowed, at least as measured by the Consumer Price Index. Yet initially, little reduction in the rates of wage increases was evident. Meanwhile, the Prices and Incomes Commission had attempted to persuade business and labour to adhere to voluntary wage and price guidelines, but agreement with labour proved elusive, and the attempt was abandoned in the same year.

In 1971, the Special Senate Committee on Growth, Employment and Price Stability reported that it was feasible to apply fiscal, monetary and exchange-rate policies to achieve the medium-term goal both of maintaining unemployment at 4 to 4.5 per cent and of restricting annual increases in the Consumer Price Index to 2 to 3 per cent. It saw little need for imposing general wage and price controls or guidelines, though it recognized that their temporary use, if backed by strong national support, could supplement demand-management policy to "bring about a short-term psychological adjustment

towards a less inflationary climate.”⁹ It recommended that the Prices and Incomes Commission identify “unreasonable” wage or price increases and that Old Age Security (OAS) and Canada Pension Plan (CPP) benefits be fully indexed.

The summary report of the Prices and Incomes Commission, presented in 1972, attributed the increase of inflation in the mid-1960s largely to excess demand; the persistence of inflation after the clear emergence of economic slack in 1970, said the report, resulted both from lags in adjusting inflation expectations to match slower economic growth and from strongly held inflationary expectations. Estimating that the unemployment rate reached a “danger point” of inflationary pressure when it fell below 4.5 to 5 per cent, the Commission was also pessimistic about the possibility of using human-resource/adjustment programs, regional-development or similar types of structural policies to reduce unemployment in a way compatible with price stability. It regarded demand-management policy as the key to countering inflation; however, it also considered that adoption of a temporary incomes policy could provide a useful reinforcement to demand management in “trying to extricate the economy from a major inflationary outbreak originally generated by an overshoot of demand but persisting stubbornly because of widely held inflationary expectations and response lags.”¹⁰

By 1971, the unemployment rate had risen to more than 6 per cent. Budgets which had given priority to reducing the rate of inflation in the late 1960s now had as their first objective the reduction of the unemployment rate. Consequently, federal fiscal action in 1971, 1972 and 1973 was expansionary. The February 1973 budget even noted that the policy might be excessively expansionary, but this risk was judged worth taking at this time, in the interest of dealing more effectively with unemployment. Monetary policy was also expansionary: the narrow measure of the money supply (M1) grew at double-digit rates from 1971 to 1973.

With the benefit of hindsight, monetary and fiscal policy are generally viewed as having been too expansionary from 1971 to the close of 1973 and thus as having contributed to building up inflationary expectations that are perhaps only now being reduced. The period is of particular interest, as it illustrates a number of difficulties to which policy making is subject. For example, Canadian policy makers, academic economists and the interested public initially failed to recognize what the 1972 Unemployment Insurance reform would do to the non-cyclical component of unemployment (the NAIRU). From 1971 to 1972, the unemployment rate remained at an average of 6.2 per cent, although the number of people employed increased at the relatively strong rate of 3 per cent. As already noted, the Unemployment Insurance (UI) reforms are generally estimated to have increased the unemployment rate by one to two percentage points. Thus, although an unemployment rate of 6.2 per cent may have indicated that the labour market was relatively slack before the reforms were made, afterwards it was equal to, or below, the new NAIRU, signalling a moderately tight market. Few people realized, however, the change that had occurred.

Initial National Accounts data also tended to mislead policy makers and other observers of the day. At the time of the February 1973 budget, the

published data showed real Gross National Expenditure (GNE) in 1972 below the trend value, another indication of a slack economy. But subsequent revisions to the National Accounts showed the cumulative growth of real GNE between 1969 and 1972 as 2.2 percentage points higher than had the first-published version, a level marginally above the trend.

During this period, the money supply was allowed to increase at a rapid rate, at least partly because of a desire to hold down interest rates and restrict the inflow of capital from abroad so as to limit appreciation of the Canadian dollar. Our dollar had strengthened partly because of a boom in our resource exports. Such a development inevitably poses a difficult policy choice: to dampen inflation by allowing substantial appreciation of our currency at the cost of imposing a difficult adjustment on the manufacturing sector, or to protect the competitive position of Canadian manufacturing by limiting exchange-rate appreciation at the risk of setting off an inflationary spiral.¹¹

However, the major increase in domestic inflation in 1973 and 1974 did not come solely from excessively expansionary policy within Canada. It is now apparent that during the previous few years most other OECD countries, acting independently, had been pursuing monetary and fiscal policies that were probably excessive individually and were undoubtedly so in their cumulative impact. (In the United States, these policies dated from the country's growing involvement in the Vietnam War in the mid-1960s.) The synchronized growth that followed in virtually all the advanced industrial countries not only generated internal inflationary pressures, but also led to a sharp increase in international commodity prices, which occurred in response to the substantial increase in world-wide demand. These hikes were compounded, in the early 1970s, by the sharp rise in the prices of a number of agricultural products; that rise was the result of major crop failures in several parts of the world and of the disappearance from the South American coast of the schools of anchovies that had provided a rich source of animal feed. These pressures had especially strong effects in Canada, where the rapid increases in prices of many of our raw-material exports led to high profits that created the potential for high and successful wage demands that proved difficult to bring down when the resource-price boom ended. In late 1973, the system received the first oil-price shock. A sharp global recession followed, accompanied for a time by continuing sharp increases in prices.

Throughout 1972 and 1973, the Canadian government had expressed concern about inflation. Rather than tightening fiscal and monetary policy, however, it had confined its response to encouragement of supply, restraint of particular prices, and assistance to citizens especially hard hit by inflation. In essence, the government's approach was to accept high rates of inflation as likely to continue for some time and to introduce measures aimed at reducing their adverse impacts. The May 1972 budget, for example, introduced full indexing of Old Age Security and Veterans' pensions. The February 1973 budget tried direct price reduction through cuts in the sales tax (on children's clothing) and tariffs, together with a form of budgetary stimulus (tax cuts) that was intended to help contain inflation. In a measure that took effect in January 1974, the same budget introduced indexation of rate brackets and most personal exemptions to offset the effects of inflation on the personal

income-tax system, in order to prevent inflation-induced increases in real tax liabilities.

By May 1974, the budget makers were referring to “inflation, world wide in its origin and impact” as being “deeply [disturbing to] our country and this government”. Their macro-economic policy stance provided no further stimuli, but they rejected deflation of demand through severe monetary and fiscal restraint as “a cure worse than the disease” and termed general wage and price controls “totally ineffective in overcoming the kind of inflationary problems we have been, and are still facing.”¹² They did, however, institute more measures intended to mitigate the effects of inflation on income categories that had not been aided by the 1972 and 1973 measures. One of the 1974 measures was the introduction of the \$1000 interest-income exemption in the personal income tax. The government also attempted to restrain particular prices by such means as removing the sales tax from adult clothing and footwear and holding the domestic price of oil below world levels.

In the following months, the outlook for inflation worsened as wage and salary costs accelerated. But the outlook for real output and employment also deteriorated sharply as a result of the recession affecting Canada's major trading partners. The budget of November 1974 introduced income-tax cuts and incentives to construction, to sustain aggregate demand; it also sought to mitigate the effects of inflation, primarily through the exemption of \$1000 of pension-annuity income from the calculation of personal income tax. The government appealed for restraint in wage demands and announced that it would try to persuade labour and business interests to agree to such restraint in an effort to ease inflation. No such agreement was forthcoming. Given that failure, as well as the continued strength of inflation, the June 1975 budget provided no further general stimulus to demand. The government, however, still rejected severe fiscal and monetary restraint, and shunned controls because of the lack of widespread public support.

Partly because our policy measures were relatively expansionary and partly because the increase in world oil prices had domestic effects that were favourable as well as unfavourable, the Canadian economy experienced a much milder slow-down from 1974 to 1975 than did the economies of most OECD countries. However, our inflation rate also stayed higher than most of theirs.

In September 1975, the Governor of the Bank of Canada stressed the prime importance of achieving lower rates of inflation and the necessity of keeping the rate of monetary expansion within reasonable limits in order to reach this goal.¹³ In the following month, the government introduced its Anti-Inflation Program (AIP), which consisted of:

- Fiscal and monetary policies aimed at restraining growth in total demand and production at a rate consistent with declining inflation
- Government expenditure policies intended to limit the rate of increase in public service employment and the growth of public expenditures to or below the trend in the growth of GNP
- Structural policies to deal with the special problems of energy, food and

housing, to ensure a more efficient and competitive economy, and to improve labour/management relations

- A temporary prices and incomes policy that established controls over prices, wages and other incomes for larger firms, and over wages and some prices in the government sector.

In November 1975, the Governor of the Bank of Canada announced the first explicit targets for the growth of the money supply. For the first year, M1 (a limited definition of the money supply) was to expand 10 to 15 per cent (preferably towards the lower end of the range); thereafter, the growth was to decline, to approach the rate consistent with long-term price stability. This program marked the official start of monetary targeting in Canada.

Soon after introduction of the Anti-Inflation Program, wage and price inflation declined quite sharply, while the Canadian economy continued to avoid a recession as severe as that experienced in the United States and most Western European countries. Unemployment, however, climbed gradually to a new peak of 8.4 per cent in 1978. During the 1976-78 period, analysts judged that the economy had room for some expansion of demand without risking the gains made in lowering inflation. Federal fiscal policy became increasingly expansionary as tax cuts, rather than new or expanded expenditure programs, provided most of the stimulus.

Although unemployment fell during the period from 1978 to 1981, reaching a low of 7 per cent in mid-1981, price and wage inflation started to increase again; it was given an extra boost in 1980 and 1981 as a result of the sharp increase in world and domestic energy prices. The government had made further efforts in 1977 and 1978 to achieve agreement with labour and business on the need for incomes restraint, and in 1978, the Centre for the Study of Inflation and Productivity was established to provide an early-warning system on inflation. In addition, fiscal policy was tightened somewhat between 1978 and 1981.

In November 1979, the United States, faced with rising inflation and a depreciating currency, implemented a monetary policy that was much more aggressively anti-inflationary than Canada's. Although our monetary authorities cushioned the effect on Canadian financial markets of some of the large swings in U.S. interest rates, Canada also moved into a period of much higher nominal and real interest rates.

The world-wide recession of 1981-82, which followed the doubling of international oil prices in 1979-80 and the sharp tightening of monetary policy had particularly severe effects in Canada. The rate of inflation slackened in 1982 and fell sharply in 1983; the result of the recession in slowing the increase of prices and wages was augmented by the application of the federal government's "Six-and-Five" program and by the introduction of similar programs relating to public sector wages and prices in most provinces. A number of private sector prices under federal regulatory control were included in the program.

Another significant development of the 1981-82 period was the apparent breakdown in the historical relationship between nominal GNP and M1. In setting its target band for monetary growth, the Bank of Canada had been using this narrow measure of the money supply, which excludes, among other

items, personal savings accounts and term deposits with the chartered banks. The breakdown was caused principally by shifts in personal deposits into the newly available daily interest chequing accounts, which, by definition, were not included in the M1 measure, and by corresponding developments in business deposits. In 1982, the Bank of Canada suspended the practice of defining its policy in terms of a target growth rate for M1.

From mid-1981 to late 1982, the severe recession led to a very sharp rise in unemployment, which has since remained at very high levels. Inflation has continued to decline. Most European countries have experienced a similar pattern of unemployment and inflation; the U.S. economy, virtually alone, has experienced rather strong recovery. The Canadian government began to take expansionary fiscal policy action with the June 1982 "mini-budget". Monetary policy has remained relatively tight, substantially because of the importance given to limiting depreciation of the Canadian dollar relative to the very strong U.S. dollar.

This review of the post-war record suggests a number of conclusions:

- Given current labour and product-market institutions, unemployment rates of about 6.5 per cent at best, and perhaps rising as high as 8 per cent at worst, appear to be required to avoid accelerating inflation. Analysis of this issue is, however, complicated by the large "special" price shocks that the economy has experienced since 1972.
- Wage and price controls do seem to have eased the transition to lower inflation during the 1975-77 period, and the Six-and-Five program probably helped this process in 1982 and 1983. The Canadian experience with such incomes policies differs from that of many other countries, in particular the United States. The U.S. controls instituted from 1971 to 1974, which were not supported by anti-inflationary monetary policy, and which did not pursue a phased reduction in inflation, had little lasting effect; any helpful initial impact tended to be offset by a subsequent snap-back of prices and wages.
- Achievement of general agreement in support of voluntary restraint of incomes and prices is difficult to obtain in Canada, given the country's decentralized wage negotiations, and the fact that many of its important "prices" (including interest rates) are more or less determined in international markets.
- It is unrealistic to hope to fine-tune the economy by applying policies to keep real demand on a narrow path of non-inflationary growth. Attempts are constantly undercut by the uncertainties to which economic forecasting seems inevitably subject, by uncertainties concerning levels of real output and unemployment that are sustainable without setting off renewed inflationary spirals, and by uncertainties about the extent of, and lags in, the effects of monetary and fiscal policy actions.
- Recent experience with instability in the relationship between the demand for money and changes in GNP raises serious doubts about the desirability of setting monetary policy in terms of strict adherence to a simple rule of monetary growth.

- Sufficiently tight monetary restraint can sharply reduce inflation, but the process is likely to involve a severe and possibly extended recession. A gradual approach to controlling inflation will probably involve less severe rates of unemployment, but it will take longer to produce effects and offers less certainty of success.

Policy Issues

General Policy Issues

Any discussion of future policy setting for Canada must first address two general issues: approaches to exchange rates and active, as contrasted with automatic, mechanisms for stabilization. Only then can we turn to issues related specifically to today's circumstances.

The Exchange-Rate Regime

As we have seen, the choice between a fixed and a flexible exchange rate is of fundamental importance. For a small open economy to opt for a fixed exchange rate is to abandon virtually any opportunity to exercise an independent monetary policy. (Recall, however, that such an economy's freedom to manoeuvre under a floating-exchange system should not be exaggerated.)

For Canada, choosing a fixed exchange rate would mean, essentially, tying ourselves to U.S. monetary policy, to U.S. interest rates, and, broadly speaking, to the U.S. rate of inflation. Such ties would produce benefits if the United States succeeded in establishing monetary stability and low inflation. Under these circumstances, such a policy approach would help us to establish stable, non-inflationary expectations and to stabilize the environment for decision making in industries for which trade with the United States is important.

These potential benefits are not illusory. The countries of the European Monetary System (EMS) have opted for a fixed regime with regard to one another's currencies, although the "bands" within which rates are fixed permit significant flexibility. The Federal Republic of Germany, as the largest country in the group, exercises an important influence on the monetary policy of the system as a whole, and many observers suggest that the other EMS countries have benefited from this link by "importing" expectations of low and stable inflation.¹⁴

Despite the merits ascribed to the European example, to tie the Canadian dollar to the U.S. dollar would further limit our monetary independence. Recent experience has demonstrated that Canada might not wish to be bound to developments in the United States. Even under favourable circumstances, however, fixing our exchange rate with the U.S. dollar would deny us the shock-absorbing benefits that a flexible exchange rate can often provide. A flexible exchange rate eases our adjustment in the face of a "boom or bust" in resource exports and, under certain circumstances, provides some temporary

insulation from changes in U.S. interest rates, although we remain strongly influenced by U.S. monetary developments.

Commissioners conclude that maintenance of flexible exchange rates and thus of the possibility of independent monetary policy is, on balance, desirable. We shall consider later in this chapter the desirability (or lack of desirability) of attempting to insulate Canadian interest rates from U.S. rates through exchange controls or interest-equalization taxes.

Steadiness or Activism in Macro-economic Policy

During the latter 1970s, a growing number of countries came to favour a strategy of setting macro-economic policy—and particularly monetary policy—on a steady medium-term course estimated as consistent with stable growth in nominal GNP, with stable and low rates of actual inflation, and with non-inflationary expectations. Policy makers were brought to this approach by their growing awareness of several realities: the limits of their ability to forecast developments in the medium term; the lack of long-term trade-offs between unemployment and inflation; and the importance of expectations in influencing economic behaviour. Canada, the United States, West Germany, Switzerland and Britain all chose to set monetary policy by specifying a target growth range for one or more measures of the money supply.

This approach, however, has not been without its difficulties. First, reasonable stability and predictability in the relationship between money and aggregate demand (nominal GNP) is an essential part of the steady approach to monetary growth. Yet in several countries, especially Canada and the United States, the relationship between GNP and the chosen measure of the money supply has not proved as predictable as expected. For example, the 1982 drop in nominal GNP in the United States was more drastic than predicted on the basis of the reduction in monetary growth. In Canada, the breakdown in the historical relationship was so severe that in 1982, the Bank of Canada suspended the monetary-growth/targeting approach.

Secondly, just as adherence to a fixed exchange rate essentially means that monetary policy must be directed to maintaining that rate, so adherence to a money-supply growth rate means that the exchange rate must be allowed to fluctuate freely. Yet countries for which trade is important are often reluctant to accept large swings in exchange rates, especially swings that do not reflect differences in inflation performance. Thus, both West Germany and Switzerland have been prepared to compromise, at least temporarily, their adherence to monetary-growth targets in order to “lean against” swings in the exchange rate that they regarded as excessive.¹⁵

Thirdly, although monetary policy makers can set a stable and low target for growth of the money supply, fiscal policy admits of no such simple rule. Possible guidelines for fiscal policy do exist; most involve maintaining some “cyclically adjusted” or “high-employment” budget balance, expressed as a percentage of GNP, or some debt/GNP ratio trend. Such an approach permits—indeed, requires—the operation of the automatic fiscal stabilizers: that is, it preserves the automatic counter-cyclical swings in the actual budget

balance that tend to dampen swings in the economy. The success of reliance on the automatic stabilizers, however, depends very much on acceptance of their implications for the deficit by the public at large and by the domestic and international investment communities. In essence, these groups must neither be “spooked” by the substantial deficits that automatically result in times of severe recession, nor press for tax cuts or expenditure increases when economic booms automatically generate substantial budget surpluses. Moreover, estimates of the cyclically adjusted budget balance are inevitably somewhat arbitrary. There is always a margin of uncertainty about the true level of the “high employment” or “trend” output path to be used as a basis for calculating the “normalized” or cyclically adjusted budget balance. Even in the absence of such uncertainties, the choice of a target budget balance or debt/GNP ratio involves complex controversial issues, both analytical and empirical.

In addition to these difficulties, at least two considerations raise questions about the suitability of a stable setting for the growth of money supply and a stable approach to fiscal policy. First, economies may occasionally be subject to severe and prolonged recessions caused by substantial weakness in private demand. Such circumstances may well warrant the provision of some stimulus beyond that generated by the automatic stabilizers. Secondly, rigid adherence to steady policy settings precludes the conscious adjustment of the mix of monetary and fiscal policies.

Economists have reached no clear consensus on the advantages and disadvantages of adopting steady guidelines for policy. Generally speaking, the “monetarists”, who emphasize the advantages, are those who are particularly impressed by the limits of policy makers’ ability to forecast the course of the economy and to estimate the effect of discretionary action; who are concerned about adversely affecting expectations by making discretionary policy changes; and who have confidence in the strength and speed of the economy’s self-righting mechanisms. The “neo-Keynesians”, who take the opposite view on one or more of these points, tend to be more sympathetic toward discretionary departures from the “steady rules” approach, at least when there are clear shifts in the money-GNP relationship or clear prospects of an extended boom or recession. (Of course, such shifts and prospects are seldom very clear until well after the event.)

A compromise approach, which has recently received attention from some academic economists, suggests formulating demand-management policies in terms of targets for growth of nominal GNP. When the relationship between the money supply and nominal GNP is stable or undergoing a relatively mild, short-lived, cyclical disturbance, this compromise approach might well involve the same settings for monetary and fiscal policy as would the stable monetary and budget-balance guidelines. It would, however, involve a willingness to change the targets and to adjust fiscal and monetary policy in the event of significant prolonged departures of nominal GNP from a steady growth path. It would also provide a framework for considering changes to the mix of monetary and fiscal policy. For example, if it were deemed appropriate to cut the fiscal deficit substantially, in view of concerns over the growth of public debt and the lack of funds required for private investment, it might also be considered appropriate to provide some monetary stimulus to offset the effect

of tighter fiscal policy on nominal (and real) GNP growth. This approach tends to be more attractive to neo-Keynesians than to monetarists; to the latter, it verges on a back-door return to the illusions of fine-tuning.

A significant element of the rationale for adopting steady rules to govern monetary and fiscal policy is the potential the policy offers for helping to establish non-inflationary expectations, which, once established, improve the prospects of achieving or maintaining low inflation and reasonably high employment. Ironically, although to establish such expectations firmly may require a period of rather rigid adherence to clearly non-inflationary monetary and fiscal rules, the existence of firm expectations of low inflation subsequently increases the room of authorities for taking *discretionary* action to combat recessions or other economic disturbances. For example, in the late 1970s, when the West German and Swiss central banks temporarily raised the rate of increase of the money supply in their respective countries, in order to counter appreciation of their exchange rates, they may well have judged that they could do so without risking a resurgence of inflationary expectations because of the confidence they had established in their underlying commitment to maintaining low inflation. The recent willingness of the U.S. Federal Reserve System to allow a high rate of increase in M1 in response to an apparent upward shift in the demand for money might be similarly interpreted. In sum, it seems that credibility can be achieved over time at a price, and that once established, it may well permit stabilization policy to operate more effectively than it could in the absence of such confidence. Yet the danger remains that hard-won credibility will be eroded if the public loses faith in authorities' continuing commitment to prevent the development of renewed inflationary spirals.

Commissioners conclude that the difficulties to which fine-tuning is so clearly subject and the potential contribution to stable expectations that governments can make by following steady policies oriented to the medium term provide a strong case for rejecting short-run adjustments of monetary and fiscal policy as long as departures from a non-inflationary growth path are moderate. Granting this, however, we note that the current state of economic analysis falls considerably short of offering clear guidance for developing satisfactory medium-term guidelines for setting policy. For this reason, we think it worth considering an approach based on targeting monetary and fiscal policy in relation to non-inflationary growth of nominal GNP. Furthermore, while we support a medium-term rather than a "fine-tuning" approach, we do not exclude the possibility of supplementing automatic stabilization with discretionary action in times of wide and protracted departures from satisfactory levels of nominal demand. The existing high levels of unemployment and the prospects for their slow reduction suggest that the current situation may constitute the kind of exceptional case just described.

Medium-Term Prospects: Implications for Present Policy

During the last three years, fiscal policy in Canada and the United States has gone well beyond mere acceptance of the upswing in deficits that would have resulted from following a steady, cyclically adjusted, budget-balance

approach. Deliberate fiscal measures and unexpectedly high real-interest rates have increased the federal deficits substantially. (This holds true even if we adjust for the effect on the deficit of the cyclical weakness in the economy. What remains after such an adjustment is a high "structural deficit": that is, a deficit that would exist, given actual tax and expenditure structures, even if the economy were operating at a "normal" level of activity.) Monetary policy, however, has generally remained rather tight.

This policy mix has achieved major reductions in inflation in both countries, although there are some doubts as to whether the reductions in inflationary *expectations* have fully matched those in actual inflation. In the United States, this policy mix has also been consistent with a reasonably satisfactory recovery from the recent recession, but many Americans are still concerned about the continuing high level of the deficit. In Canada, the recovery started from a deeper trough and has been rather anaemic, particularly as measured by the unemployment rate. There are fears that unemployment will remain high for an extended period. The level of the Canadian federal deficit also causes much concern to many observers.

Given the broadly similar setting of policy in Canada and the United States, it is not entirely clear why recovery has been so much stronger in one country than in the other and, in particular, why private investment has recovered strongly south of the border, but is still weak in this country, as Figure 10-3 shows. The explanations advanced include the apparently greater rigidity of wages in Canada (and, therefore, our economy's less flexible response to monetary restraint and to changing competitive conditions) and the fact that the cessation of the energy boom and the world-wide weakness in raw-material industries have had stronger effects on the Canadian than on the U.S. economy. In addition, the preceding inflationary boom appears to have been more pronounced in Canada, causing a more severe "hangover" as corporations and individuals have retrenched to reduce the heavy debts incurred when they expected inflation, along with economic prosperity, to continue and, thus, the real burden of debt servicing to be low. That the United States substantially strengthened tax incentives for investment in 1981, whereas Canada had taken similar action in the 1972-77 period, is no doubt of some importance in explaining the relative strength of business investment in the two countries, both in the late 1970s and more recently. Of course, the higher levels of capacity utilization in the United States also help to explain the greater strength of investment in that country, although the difference in capacity utilization is itself part of the puzzle that we are trying to solve. Finally, differences in the two tax systems' treatment of consumer debt and mortgage-interest payments may make the Canadian economy more sensitive to high interest rates.

In both countries, however, demand management is constrained by the fact that projected federal deficits, even if cyclically adjusted, imply ever-higher ratios of debt (and debt-servicing costs) to GNP as long as real interest rates stay relatively high. These high deficits doubtless gave important support to the level of economic activity during the recession. They may also, however, have created expectations that to bring them under control will eventually require substantial tax increases, or that to finance them will induce a shift to more inflationary monetary policies.

FIGURE 10-3 Business Fixed Investment



Sources: Canada. Historical Compendium, Table 24,
U.S.A.— The President's Council of Economic Advisors:
Economic Report to the President, February 1984, Table B7.

Inflation and Employment Goals

As we Commissioners have already made clear, we accept the view that given the present structure of the economy, demand-management policies alone cannot reduce unemployment below 6.5 to 8 per cent on a sustained basis. It is for this reason that we attach such importance to structural initiatives which could lower the attainable floor rate of unemployment. Moreover, we think that it would be very unwise to risk our recent reduction in inflation, purchased at such great cost, by attempting to use demand-management policy alone to return unemployment very rapidly to the 6.5 to 8 per cent range. We are still faced, however, with a range of important choices in future fiscal and monetary policies. A fundamental choice concerns the extent to which Canada should push for further reductions in the rate of inflation. That choice means balancing the risks of making slower progress towards further reduction of inflation and of reducing unemployment only slowly to more tolerable levels.

Our current unemployment rate is much higher than most estimates of the NAIRU; other indicators also suggest a substantial degree of slack in the economy. Furthermore, we seem to have made major progress in restoring expectations that inflation will be maintained at moderate levels for the foreseeable future. The prospects for the Canadian economy, considered in Chapter 7, suggest that within the present framework of economic policies, we face a rather extended period of only modest recovery. Under these circumstances, a moderate increase in the projected growth of demand, which would offer the prospect of a significant reduction in unemployment, as well as a strengthening of investment, should be consistent with further reduction in inflation.

Policy with Respect to the Deficit

The earlier analysis of deficits and debts offered in this chapter suggested that deficits are a potential problem if they are of a size that causes an upward *trend* in the debt/GNP ratio. This appears to be the present situation in Canada, even if we adjust for current below-normal levels of activity.

Among the larger OECD countries, as Tables 10-2 and 10-3 show, Canada's deficit/GNP ratio for the total government sector is exceeded only by Italy's. However, while Canada's overall deficit/GNP ratio is higher than that of the United States, when the deficit is expressed as a percentage of net private savings, Canada appears to be in a better position than its neighbour. This fact reflects the much lower level of personal savings in the United States than in Canada.

Commissioners accept the wisdom of lowering the deficit to a level consistent with stabilizing or decreasing the debt/GNP ratio. We shall not put forward a specific target for reduction of the deficit: that is a job for those with access to the latest economic and fiscal projections, and such targets may well require revision over time as the projections change. We recognize, however, that the required deficit reduction is substantial, probably in the order of an annual increment of 1.5 per cent of GNP, which would be equivalent to \$10 billion by fiscal year 1991.¹⁶ (According to the government's November 1984 projections, this would reduce the federal budgetary deficit, by the same year, to about 4 per cent of GNP.)

Examples are helpful to illustrate the magnitude of the action we are considering. To achieve a \$10 billion deficit reduction by the end of the decade, entirely through an increase in personal income tax revenues, would require that rates be increased by about 20 per cent, and this calculation does

TABLE 10-2 Ratio of Budget Balance to GNP

Country	(total government sector)					
	1979	1980	1981	1982	1983	1984 ^a
United States	+0.6	-1.2	-0.9	-3.8	-4.1	-3.2
Japan	-4.8	-4.5	-4.0	-3.4	-3.3	-2.2
West Germany	-2.7	-3.1	-3.8	-3.4	-2.7	-1.7
France	-0.7	+0.2	-1.8	-2.5	-3.4	-3.5
United Kingdom	-3.2	-3.8	-3.1	-2.4	-3.3	-3.1
Italy	-9.5	-8.0	-11.9	-12.7	-11.8	-13.5
Canada	-1.8	-2.7	-1.6	-5.0	-6.2	-6.0
Total of above countries ^b	-1.7	-2.4	-2.6	-4.0	-4.2	-3.6

Source: Organisation for Economic Co-operation and Development, *Economic Outlook, December 1984* (Paris: OECD, 1984), p. 29.

a. OECD estimates and forecasts.

b. 1982 GNP/GDP weights and exchange rates.

TABLE 10-3 Ratio of Budget Balance^a to Net Private Savings^b

Country	(total government sector)											
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
United States	4.8	52.4	30.4	13.7	-2.6	-9.3	22.0	15.0	71.4	68.2	49.7	
Japan	-2.1	17.1	20.6	23.0	31.0	29.8	28.2	26.5	24.7	26.9	20.3	
West Germany	12.9	55.9	35.5	28.9	26.2	27.8	35.4	46.2	40.6	30.5	15.8	
France	-5.9	20.2	5.8	8.5	16.7	6.7	-2.6	24.2	35.2	47.0	47.2	
United Kingdom	61.4	76.1	68.5	37.8	40.7	35.8	42.8	40.5	30.8	56.3	48.1	
Italy	48.7	69.4	52.4	47.9	54.2	51.4	47.5	73.0	78.0	82.9	85.1	
Canada	-19.1	24.1	16.8	26.7	30.6	15.3	20.8	10.4	50.5	49.8	44.0	
Total of above countries	9.1	45.6	30.6	20.5	15.2	10.0	25.2	25.7	54.0	54.8	42.7	

Source: Organisation for Economic Co-operation and Development, *Economic Outlook, July 1984* (Paris: OECD, 1984), p. 29.

a. General government financial *deficit* as a percentage of private savings. A minus sign indicates a financial *surplus*.

b. Net private savings are household plus business net savings.

not allow for any effect that tax increases might have in constraining economic growth and, thus, the increase in revenues. To eliminate the deficit entirely, through expenditure reductions, would require an average cut of about 10 per cent of all expenditures, excluding public-debt charges, of about 11 per cent if national defence costs and foreign aid were exempt; of about 15 per cent if transfers to the provinces for equalization and established-program financing, to cover health care and post-secondary education, were also exempt; or of about 20 per cent if, in addition, expenditures on the Old Age Security/Guaranteed Income Supplement (OAS/GIS) were exempt.

We shall not attempt to indicate in detail the form that a package for reducing the deficit should take. We do, however, note several considerations that, in our judgement, should be taken into account in determining the contents of any such package:

- Tax cuts during the 1975–78 period contributed significantly to the build-up of the deficit. Since 1975, expenditures for regular government programs have been kept reasonably stable in relation to trend GNP; growing public-debt charges, plus an increase in UI benefits and the introduction of special programs related to the recession, account for most of the recent increase in federal expenditure relative to GNP.
- Despite the impact of past tax reductions on the government's fiscal position, we are concerned that a large increase in tax rates now would have adverse effects on incentives and thus impair prospects for the development and growth of the Canadian economy. We also note that significant increases in taxes will be necessary, over the medium term, for reasons other than reduction of the deficit. The contribution rates for the Canada Pension Plan (CPP) and the Quebec Pension Plan (QPP) will have to rise as the programs mature, and some increase in general taxes may also be necessary to finance OAS/GIS pensions and health care as the proportion of the elderly in the population increases.
- Given these considerations and the fairness of "spreading the pain", we favour a combination of tax increases and rather broad reductions in expenditure. This recommendation raises the question of which expenditure areas should be spared, at the cost of deeper cuts elsewhere. Everyone, of course, will have particular candidates. We have recommended in Part II a faster pace of increase for foreign aid. We have also called attention to the potential need to expand economic and employment-adjustment programs. Canada's relatively low defence expenditures provide a case for exempting this area. Moreover, given current economic circumstances, we would not wish to see cuts that adversely affected Canadians who are already experiencing hardship as a result of unemployment.
- A possible way to implement broadly based tax increases and expenditure reductions would be to set the indexing factor for the personal income tax and for some transfer programs at x percentage points below the rate of inflation, and to hold the price factor for all other expenditure programs—excepting foreign aid and national defence—at x percentage points lower than the rate of inflation. We calculate that to set these factors 3 percentage points below the inflation rate for a three-year period would generate a deficit reduction in the order of 1.5 per cent of GNP.

This Commission's concern that the deficit be reduced has important implications for our Report: any net expenditure increases or tax reductions we propose would add to the tax increases and expenditure cuts required elsewhere. We also recognize that tight restraint by the federal government creates an environment that could well make federal-provincial fiscal and other relations more difficult.

The Mix of Monetary and Fiscal Policy

Earlier in this section, we Commissioners expressed our judgement that Canada's fiscal and monetary policies should be directed to promoting some increase in the pace of recovery. We have now added the objective of reducing the structural deficit. The only way to achieve both objectives simultaneously is to change the policy mix, moving to a somewhat more expansionary monetary policy that will more than offset the initially restrictive effect of deficit-reducing fiscal measures. This net shift towards expansion would help to bring the unemployment rate down from its current unacceptably high level; it would also help to reduce the deficit by stimulating capital spending and net exports and, perhaps, by reducing private savings.

The kind of monetary policy we favour would probably involve a *temporary* increase in money-supply growth rates followed by a return from the higher base to rates consistent with non-inflationary, nominal GNP growth. It is important that a credible plan for reducing the deficit to sustainable levels be initiated at an early date so that Canada can start to ease monetary policy temporarily, without creating renewed inflationary expectations. Finally, some of us also favour fiscal policy measures that would encourage increased private spending: for example, a temporary reduction in some of the tax incentives for saving.

The prospects for the Canadian economy under such a policy approach depend critically on whether the U.S. Administration follows a similar course of deficit reduction coupled with some "one-shot" monetary easing or continues to use its current fiscal-monetary mix. If the United States were to adopt the former course, its interest rates would decline, and a similar fall in Canadian interest rates would probably not have a major effect on the exchange rate. If, however, the United States persists with its current policy mix, the recommended change in the Canadian policy mix will likely result in a smaller temporary reduction in our interest rates, coupled with some depreciation of the exchange rate. (As we explain below, the exchange rate must depreciate to a level from which it is subsequently expected to appreciate if Canadian interest rates are to be reduced relative to U.S. rates.) Under this second possibility, the export- and import-competing sectors would experience more stimulus than under the first, while the interest-sensitive sectors, particularly residential and non-residential construction, would experience less.

It should be emphasized, however, that although a one-shot easing in Canadian monetary policy must be expected to cause some reduction in the exchange rate, all other circumstances being equal, the decline should be self-limiting if the policy is conducted within a broader framework that includes a

clear credible commitment to avoid inflationary pressure. We do not wish to downplay the risks: a loss of exchange-market confidence could turn a limited depreciation into a free fall. We believe, however, that the overall approach we have suggested clearly avoids the prospect of increasing inflation and thus establishes the key condition to ensure that the exchange-rate depreciation will be self-limiting.

Another possibility is a broader policy approach that would combine monetary and fiscal policy action with a temporary incomes policy. Commissioners consider such an approach in the conclusions to this chapter.

Notes

1. Canada, Department of Reconstruction and Supply, *Employment and Income* (Ottawa: King's Printer, 1945), p. 23.
2. Canada, House of Commons *Debates*, April 19, 1959, pp. 2518–19.
3. Economic Council of Canada, *Economic Goals for Canada to 1970*, First Annual Review (Ottawa: Queen's Printer, 1964), p. 189.
4. Canada, Royal Commission on Taxation, *Report*, vol. 2, *The Use of the Tax System to Achieve Economic and Social Objectives* (Ottawa: Queen's Printer, 1966).
5. Canada, Department of Consumer and Corporate Affairs, *Policies for Price Stability* (Ottawa: Queen's Printer, 1968), p. 7.
6. See Canada, Task Force on Labour Relations, *Canadian Industrial Relations* (Ottawa: Queen's Printer, 1968).
7. Canada, Prices and Incomes Commission, *Inflation, Unemployment and Incomes Policy*, Final Report (Ottawa: Information Canada, 1972), p. iii.
8. See Canada, Senate, Standing Committee on National Finance, *Growth, Employment and Price Stability* (Ottawa: Information Canada, 1971).
9. *Ibid.*, p. xiv.
10. Canada, Prices and Incomes Commission, *Inflation, Unemployment and Incomes Policy*, Summary Report (Ottawa: Information Canada, 1972), p. 7.
11. It is important to recognize that if the boom in exports lasts, adjustment in manufacturing must occur, one way or the other.
12. John N. Turner, Minister of Finance, *Budget Speech* (Ottawa: Department of Finance, 1974), pp. 1, 6.
13. Bank of Canada, *Annual Report of the Governor to the Minister of Finance and Statement of Accounts for the Year 1975* (Ottawa: The Bank, 1976), pp. 9–11.
14. Another frequently cited example is that of Austria, which is not a member of the EMS, but has tied its currency closely to the West German Deutschmark. Some 35 per cent of Austria's trade is with West Germany, and many people consider the currency link an important factor in Austria's success in achieving low inflation and low unemployment. Austrian employers and unions are highly conscious of the implications of their pricing and wage setting for competitiveness with their chief trading partner.
15. The experience of these countries is reviewed in the proceedings of a symposium held by this Commission. See John Sargent, *Foreign Macroeconomic Experience: A Symposium*, vol. 24 (Toronto: University of Toronto Press, 1985).

16. In November 1984, the Minister of Finance stated the government's intention of achieving expenditure reductions which, presumably, would largely be translated into a deficit reduction in the order of \$10 to \$15 billion by fiscal year 1991. Such a reduction would, on the basis of the November 1984 projections, be sufficient to end the growth of the debt/GNP ratio. Professors Neil Bruce and Douglas Purvis of Queen's University, who have also called attention to the government-debt issue in studies for the C.D. Howe Institute and for this Commission, have proposed a deficit reduction of \$11 billion by 1988.

Related Institutional Issues

The management of monetary and fiscal policy raises questions about the desirability of Canada's undertaking various institutional changes. Three of these issues are the close ties between our exchange rate and international interest rates, indexation as a means of adjustment to inflation, and the constraints on stabilization policy raised by Canada's regional and federated nature.

The Exchange Rate and International Interest Rates

The steep decline in the value of the Canadian dollar in relation to U.S. currency, which began in the late 1970s and extended into the early 1980s, is regarded by some observers as a measure of Canada's economic weakness. Short-term fluctuations in the exchange rate are also sources of continuing concern in this country. In addition, Canadian interest rates, following the course of U.S. rates, climbed to unprecedented heights in our economy towards the end of 1981, and even after subsequent declines, they are still at high levels, particularly in real terms.

Most economists agree that both Canada's current low level of capital formation and its slow recovery from the 1981-82 recession are attributable, at least in part, to these high interest rates. It is widely recognized that these rates have been a world-wide phenomenon transmitted to Canada through international capital markets. The same high interest rates that have created difficulties in Canada have also done much to exacerbate, though they did not cause, the international debt crisis that emerged in 1982, involving certain developing and Eastern Bloc countries.

Because our system makes possible the virtually free flow of capital across our borders, plus a heavy flow of trade in goods and services, international monetary developments have wide-ranging and profound effects on the Canadian economy. As a result, some observers fear that our continued adherence to present arrangements must involve a substantial sacrifice of our ability to control our own economic destiny. In this section, we shall first consider the extent to which such concerns are justified and then examine various measures that might be adopted to address them.

The Exchange Rate

Although no one could possibly claim that all has been well with our economy over the last decade, Commissioners nevertheless believe that attempts to gauge Canada's economic health by reference to the exchange rate with the U.S. dollar are both misguided and misleading. In our judgement, such a view is an outgrowth of past circumstances that no longer apply.

From the end of the Second World War to the mid-1960s, the U.S. dollar was the key currency of the international monetary system. During this period, the currencies of all our other trading partners were linked to the U.S. dollar by fixed exchange rates. The float of the Canadian dollar from 1950 to 1961 was an anomaly in the international monetary system. In an environ-

ment of generally fixed exchange rates, the Canadian dollar moved against these other currencies in lock-step with its movement against the U.S. dollar. Hence, Canadians came to think of the U.S. dollar exchange rate as synonymous with the exchange rate between Canada and the rest of the world in general.

Given the special circumstances of the time, Canadians were correct in this perception. Until the mid-1960s, particularly after the Korean War, the United States was successful in achieving a relatively high degree of domestic economic stability. Its economy during these years was, for the most part, almost inflation free. In consequence, any tendency of the Canadian dollar to depreciate against the U.S. dollar (or for the current account to be in deficit after Canada returned to a fixed exchange rate) could properly be read as a sign either that the terms of trade (that is, the relative values of the goods and services in which we trade internationally) were turning against us, or that undue inflationary pressures were building up internally. A tendency for the Canadian dollar to appreciate indicated the reverse.

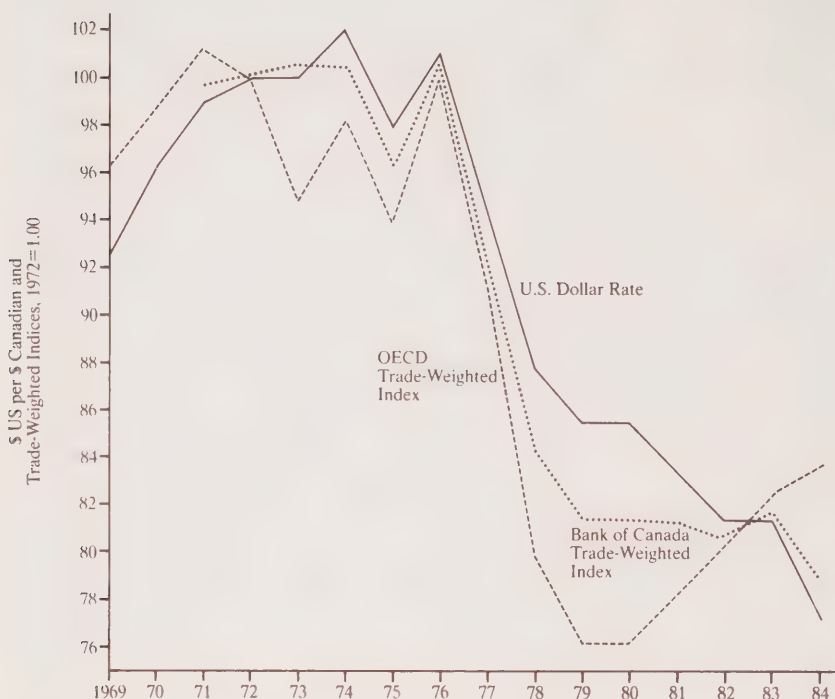
These special circumstances no longer prevail, however, and to continue to use the U.S. dollar exchange rate in this way would be inappropriate for two reasons. First, the rest of the world has not pegged its currencies to the U.S. dollar for more than a decade. The U.S. dollar exchange rate, therefore, gives an imperfect reading of what is happening to the Canadian dollar relative to the basket of currencies of the countries with which we trade. Secondly, the macro-economic performance of the United States over the last decade, like that of most other countries, has not provided a stable bench-mark and may not provide one during the next few years.

The difficulty with using the U.S. dollar exchange rate to measure the international performance of our Canadian dollar is illustrated in Figure 10-4, which shows the exchange rate of the Canadian dollar measured against U.S. currency and against two indices of our "effective exchange rate": that is, against two baskets of the currencies of Canada's trading partners. Even though the latter are heavily influenced by the U.S. dollar exchange rate (because the U.S. dollar makes up more than 70 per cent of the baskets of currencies in question), it is clear that the U.S. dollar rate and the effective rate have often behaved somewhat differently. Sometimes, as in the 1982-84 period, the U.S. dollar exchange rate has indicated that the Canadian dollar is a weak currency, while at least one of the trade-weighted rates has told a somewhat different story.

Figure 10-5 plots the trade-weighted exchange rates of major OECD countries from 1969 to 1984. It shows quite clearly that the Canadian dollar, far from being chronically weak, as the U.S. dollar exchange rate alone suggests, was indeed one of the world's stronger currencies during this period. Its depreciation against the U.S. dollar between 1980 and the present was symptomatic of the strength of the U.S. currency against virtually all currencies, and not of any specific weakness in the Canadian economy.

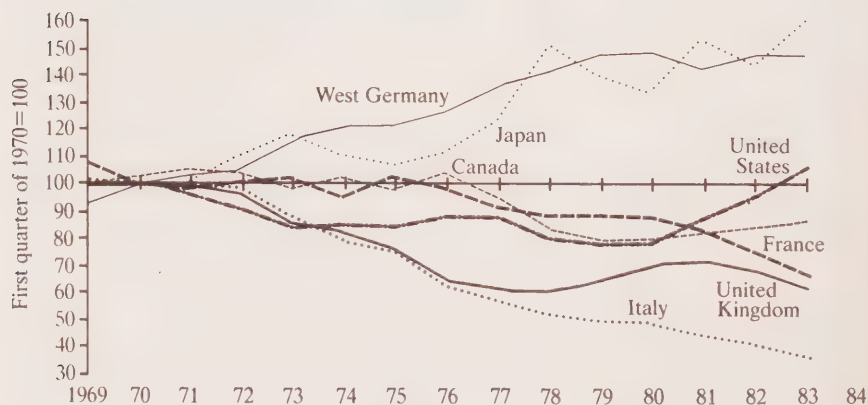
This is not to suggest, however, that the relative changes in the exchange rates of the Canadian dollar against the U.S. and other currencies were of no importance to Canada. Obviously, they were important, and it is reasonable to ask whether they required a concerted policy response by Canadian

FIGURE 10-4 U.S. Dollar and Trade-Weighted Exchange Rates for the Canadian Dollar



Source: OECD *Economic Outlook*, Dec.1984 Tables 32, R15, R16; *Bank of Canada Review*, Feb.1985 and Sept.1984.

FIGURE 10-5 Effective Exchange Rates, Trade Weighted (Average of Daily Rates)



Source: OECD *Economic Outlook*, July 1984, Table R16 and 33.

authorities. Exchange-rate fluctuations, regardless of their cause, have consequences for the producers and consumers of goods traded across national boundaries. In Canada, exports represent more than a quarter of national income, which means that one way or another, exchange-rate fluctuations affect virtually every Canadian. Moreover, since more than 70 per cent of our trade is with the United States, there can be no denying that the U.S. dollar exchange rate is an extremely important variable for all of us. We must, therefore, consider what response, if any, might be appropriate for the Canadian authorities to make to exchange-rate fluctuations.¹

The Long Run

The primary responsibility of Canada's fiscal and monetary authorities is to achieve a situation in which inflation is low and stable, employment is high and stable, and economic growth proceeds at a reasonable pace. Furthermore, Commissioners do not believe that over the long run, trade-offs are available among these goals. Exchange-rate policy must be judged against this background.

An exchange rate is the relative price of two currencies, a price influenced by factors affecting either of them. This elementary truth has important implications. If the authorities of all countries with whom Canada trades give similar priority to the pursuit of domestic goals, including that of low inflation, exchange rates will maintain long-run stability in the absence of changes in the real terms of trade. If Canada successfully pursues such policies, but some of its trading partners find a rise in domestic inflation tolerable, then their currencies will depreciate against the Canadian dollar, and vice versa.

The Canadian government cannot simultaneously commit itself to the pursuit of domestic economic stability and to the maintenance of a stable exchange rate against the currency of any country unless it can be certain that the other country's authorities will pursue the same domestic goals, and that the real terms of trade and other determinants of trade between the countries will not change. If our government cannot be certain of both points, it must choose between a commitment to domestic goals and a commitment to a constant exchange rate. Commissioners conclude, as we have already indicated, that Canada should opt for a flexible exchange rate against the currencies of other countries, including the United States.

This does not mean, we emphasize, that Canadian exchange rates should fluctuate constantly. It means, rather, that when faced with a choice between pursuing domestic goals and stabilizing the exchange rate over the long run, the authorities should firmly choose the former alternative. The main disturbances to exchange rates would then, in principle, result from monetary-policy initiatives in other countries that it would be unwise to imitate in Canada and from changes in the terms of trade. There is no reason to suppose that such shocks will come frequently or that when they do come, they will always be severe. A commitment to a flexible exchange rate amounts to a contingency plan for lessening the impact on the domestic economy of such shocks as they arise.

The Short Run

The preceding argument is not controversial. Very few people would contend that the Canadian authorities should commit themselves in advance to importing excessively inflationary or deflationary policies from abroad, by attempting to peg the exchange rate. Neither is it difficult to agree that when the terms of trade (or other real factors) move against Canada, it is better to allow exchange-rate changes to effect the required adjustment of relative prices of our imports and exports than to force the change to work its way through the economy by way of internal adjustments, primarily in wages. As experience over the last few years has shown, however, the exchange rate also seems to be subject to all manner of short-run pressures, the origins of which are not obviously to be found in other countries' profound policy changes or in basic changes in the terms of trade.

Many analysts argue that a free market in foreign exchange contains within itself speculative forces that cause rates to move in ways that do not reflect underlying, long-term, economic factors but that, nevertheless, can undermine the efficient operation of an economy as open as Canada's. It is thus tempting to argue that the Canadian authorities, while continuing to give priority to domestic goals, should still leave themselves room to iron out short-run fluctuations in the exchange rate.

Since Canada returned to flexible exchange rates in 1970, the government and the Bank of Canada, through monetary policy and exchange-market intervention, have explicitly adopted such a policy stance on more than one occasion. The abandonment of money-growth targets in 1982, for example, was associated in the minds of many observers with shifting policy emphasis towards stabilizing the U.S. dollar exchange rate. This period was hardly one in which our exchange rate against the U.S. dollar was pegged. None of the policy actions obviously contravened the principles set out above. The exchange-market interventions and some of the monetary-policy actions were geared explicitly to smoothing out the exchange rate's movement towards the long-run value that the pursuit of domestic goals seemed to require. The questions we face here are these: Did such interventions achieve their aims? And will they be productive if governments continue to resort to them in the future?

Commissioners would first point out that such interventions are technically feasible. The pursuit of long-run domestic price stability requires that the growth rates of various domestic monetary aggregates remain within certain bounds. To the extent that attempts to smooth out fluctuations in the exchange rate require the expansion and contraction of the domestic monetary supply, they carry a possibility—but only a possibility—that those bounds might be violated. The links, over time, between the growth of monetary aggregates and the domestic price level are not so precise as to prevent the authorities from influencing the foreign-exchange market.

Intervention may also be desirable, at least in principle. The pursuit of domestic price stability dictates only a range of growth rates for various monetary aggregates, not precise values for the growth of specific aggregates, because the demand relationships for particular aggregates are not entirely

stable over time. A temporary drop in the demand for Canadian monetary aggregates will tend to increase the short-term domestic inflation rate implicit in a particular rate of growth of the supply of those aggregates; it will also tend to put temporary downward pressure on exchange rates. Monetary tightening to counter this downward pressure on exchange rates will reduce the growth rate of the monetary aggregates at precisely the right time as far as the pursuit of domestic goals is concerned.

A temporary shift in the demand for monetary aggregates is not the only source of short-term pressures on exchange rates that the Canadian authorities might appropriately offset. Temporary balance-of-payments problems (the result, say, of a bad harvest) might also best be dealt with by Bank of Canada intervention in the exchange market, as might problems caused by movements of short-term capital, based on false information or a speculative bubble. In each case, the source of disturbance is temporary and likely to be removed in the longer run. Yet if it is allowed to affect the exchange rate, the price signals given to the market sectors of the economy might be misleading. Thus, for example, a temporary fall in the exchange rate might lead to a general and inflationary increase in domestic wages.

The case for intervention in such circumstances is strong, but not overwhelming. Temporary fluctuations in exchange rates present the private sector with opportunities for profit; to the extent that speculators exploit these opportunities, their activities will tend to stabilize exchange rates without the aid of the monetary authorities. In fact, because of speculators' knowledge of the forces at work in foreign-exchange markets and their ability to weigh prospective developments, their actions might counterbalance a sharp drop in the exchange rate that would otherwise occur in response to some adverse, but probably only temporary, development in the market-place. Short-term, central bank intervention in the foreign-exchange market needs more to justify it than the existence of temporary pressures on the exchange rate. It requires either that central bank authorities have some systematic monopoly on knowledge that makes them able to judge better than private agents when and to what extent to intervene, or that the private sector cannot muster enough resources to intervene effectively, whereas the central bank can.

It is by no means obvious that either of these conditions holds at present. The private sector is clearly not lacking in resources. In fact, private international capital markets have grown to such an extent that central banks frequently complain that the resources at their disposal are insufficient to resist pressures emanating from this quarter. The private sector's knowledge is more debatable. During the last ten years, on a number of occasions, it has certainly seemed as if speculators were attempting to shift Canadian exchange rates to an inappropriate level. During this period, however, private operators have known full well that the Bank of Canada was ready to intervene in the foreign-exchange markets, and that knowledge must have had two effects on their activity. First, to the extent that the Bank was expected to iron out fluctuations that could otherwise have profited private agents, their incentive to learn about the causes of such exchange pressure and to speculate on its outcome must have been reduced. Secondly, private operators'

incentives to second-guess and speculate on the intentions of the Bank must have been increased.

We cannot use evidence generated by central bank intervention to infer how private markets might work in the absence of this activity, although it is worth noting that intervention was often minimal for significant periods, especially in the case of major European currencies. We presume that the actions of the market would be more stabilizing than is apparent when the Bank intervenes, but how much more is a matter about which reasonable people can disagree; so, too, is the question of how often the Bank's intervention is itself well conceived.

Interest Rates

During the last few years, concern about the Canadian dollar's exchange rate, particularly in relation to the U.S. dollar, has become deeply associated in the public mind with concern about high interest rates. High levels of interest charges are widely believed to undermine the private-sector investment on which the long-run growth of output and employment depends. What scope do the Canadian authorities have for insulating the domestic economy from interest-rate levels that are too high to be compatible with these goals?

After 1982, the inflation rate in Canada fell dramatically, but nominal interest rates did not fall to the same extent. Moreover, even allowing for the fact that actual inflation and expected future inflation do not necessarily coincide, real interest rates, which are the chief matter of concern for capital accumulation and hence for growth and employment, have risen substantially since 1981. It is therefore worth considering the extent to which we can control real rates and the extent to which domestic control could be strengthened by institutional change.

One of the most striking developments of the last 20 years has been the internationalization of capital markets. Nowadays the level of real interest rates is determined primarily by the world-wide interaction of the supply and demand for capital. Consequently, a dominant influence on the real interest rates prevailing in any given country is the structure of real interest rates prevailing internationally. Of course, some countries, notably the United States, are bigger than others, both as suppliers and demanders of capital; thus their policies can affect the world-wide level of real interest rates. Canada, however, is simply too small to have any influence in these matters. As long as we permit capital to flow across our borders with almost complete freedom, the level of real interest rates prevailing in the world economy will be a major influence on our rates, especially in the longer run.

To specify the "longer run" is important because the Canadian authorities do have some short-run influence over domestic real interest rates as long as they maintain flexible exchange rates. If interest rates rise temporarily in the world economy, the Bank of Canada can choose whether to match the increase. The choice has immediate consequences for the exchange rate. If the Bank follows the increase, the exchange rate will remain unchanged. (More precisely, it will continue to take whatever path other factors determine for

it.) If the Bank does not match the increase, the Canadian exchange rate will fall, initially to the point at which investors conclude that the relatively low interest available on securities in Canada is more than offset by the appreciation they expect in the value of the Canadian dollar between the time at which funds are invested in this country and the time at which they can be converted back into a foreign currency. In other words, there is a short-run trade-off between the domestic level of real interest rate and the exchange rate.²

This trade-off is one of the benefits that a flexible exchange rate bestows on Canada, but we must emphasize its short-run nature. Canadian real interest rates cannot sink below those prevailing world wide unless the Canadian dollar is expected to appreciate at some time in the future. A temporary depreciation of the currency—that is, one that the exchange market confidently assumes to be temporary—can stave off temporary increases in world interest rates or delay the effect of more permanent increases. It cannot stave off the latter forever. In the long run—and that period is sometimes better measured in months than in years—real interest rates in Canada are broadly determined in world markets.

Intervention in Capital Flows

Our interest rates are essentially beyond our control because of the freedom with which capital can enter and leave the country. Any attempt by Canadian authorities to establish long-run control over real interest rates in this country would require them to interfere in this free movement. We turn now to a consideration of two methods by which they could do so.

Exchange Controls

Any intervention in the movement of capital across our borders, aimed at reducing real domestic interest rates below the world level would have to rest on a judgement that real international rates are higher than appropriate to our domestic economic circumstances. Since 1982, the view has been widespread that real interest rates are indeed excessively high. But deciding whether their level justifies the creation of the institutional machinery of exchange controls which, in themselves, would have an economic cost depends, at least in part, on a judgement about the permanence of the problem. Inflationary expectations were probably an important factor in creating these high rates, but they are also partly a result of a high rate of borrowing by the public and private sectors of the U.S. economy, in combination with a rather low rate of U.S. domestic savings. This problem is understood within the United States, as elsewhere, and we hope that it will be tackled in due course. To deal with a temporary problem, however, serious though it may be, by making a permanent institutional change is not an appropriate action. Hence, in Commissioners' judgement, the introduction of exchange controls would not be justified for Canada today.

An Interest-Equalization Tax

Temporary problems do sometimes persist for uncomfortably long periods, and they do recur. Sometimes interest rates abroad are too high for too long to be staved off by a short-run depreciation of Canadian currency. Commissioners therefore take seriously suggestions that temporary measures to influence interest rates warrant consideration.

The principal measure to be considered is some form of interest-equalization tax, which would work by taxing at a premium rate all interest income earned outside the country by any person or corporation taxable in Canada. Thus it would tend to make domestic investors willing to lend to Canadian borrowers at a lower rate of return than they would expect to receive from foreigners.³ In judging such a tax, one must assess both how much effect it would have on domestic interest rates and what other costs, if any, it would impose on Canadians.

Such a measure would reduce interest rates in Canada only to the extent that it diverted more domestic savings from flowing out of the country than it kept foreign savings from flowing in. Given that Canada has a high domestic-savings rate, an effective interest-equalization tax might indeed have this effect. However, it would also have other effects that are not quite so desirable. First, it would mean that all Canadian savers, not just those who had previously held their wealth abroad, would earn a lower rate of return than they would earn in the absence of intervention. Such a tax, then, would, in effect, be levied not just on speculators, but on all Canadian savers.

Secondly, to have any hope of being effective, the tax would have to be levied on all investment income earned abroad, no matter where, including that earned in less-developed countries. Under any other arrangement, it is difficult to see how investors could be prevented from re-routing, through intermediaries located in poorer countries, investments ultimately destined for the United States and Western Europe. There are certainly drawbacks to a measure which, if it is to be effective, would levy excess taxes on Canadian investments in countries that desperately need investment and that Canada wishes to aid.

Moreover, a theme throughout this Report has been that Canada, perhaps more than any other advanced country in the world, depends on maintaining a liberal international trading environment to ensure its future prosperity. Though trade in capital is not quite the same as trade in goods and services, the two are intimately related, and it is not obvious that we could promote further liberalization of our trade relations with the rest of the world at the same time that we were imposing restrictions on capital flows. An interest-equalization tax is, when all is said and done, a form of protectionism.

Finally, an interest-equalization tax would, by design, drive a wedge between international interest rates, which represent the return that the Canadian economy earns on savings supplied to the rest of the world and the interest rate facing individual Canadian decision makers. When decision makers act on the basis of a trade-off that differs from the trade-off actually facing the economy as a whole, the result is usually some distortion or cost in terms of economic efficiency.

Automatic Adjustment to Inflation through Indexation

Although the approach Commissioners recommend for monetary and fiscal policy should be consistent with further reductions in inflation, the possibility that inflation may continue in the 3 to 4 per cent range cannot be ruled out. Such a rate of inflation, although moderate compared to the levels experienced over the past decade, nevertheless remains a potential source of inequity and economic distortion. Uncertainty about future inflation can produce further inequity and distortion. In principle, these problems can be alleviated by a set of institutional changes, most of which involve indexation in one form or another.

A study prepared for this Commission outlined the many institutional and private adjustments to inflation that have already been made.⁴ The personal income tax has indexed exemption levels and rate brackets to avoid making taxpayers liable for higher effective tax rates if their real incomes do no more than keep up with inflation. The Consumer Price Index (CPI) has been used as an index for a number of government transfers to individuals: the OAS/GIS payments and Family Allowances. Unemployment Insurance (UI) benefits and accruing CPP/QPP pension rights are indexed to measures of earnings. Cost of living adjustment clauses (COLAs) have become quite common in wage contracts, especially those of fairly long duration. Many analysts see the increasing popularity of shorter maturity terms for financial instruments over the past decade as, at least in part, a response to increased uncertainty about inflation and, thus, about the real value of fixed dollar amounts maturing some distance into the future. Finally, the sharp rise of nominal interest rates in the 1970s is generally viewed as an adjustment to the considerably higher levels of actual and prospective inflation.

Despite discussion and tentative experiments, there is little or no formal provision for automatic inflation adjustments in four areas:

- Lack of inflation adjustment in business accounting reduces the usefulness of conventional financial statements as indicators of the ongoing viability and value of a business; it may bias a firm towards excessive dividend payments and mislead the public about the true level of profits. Accountants have, therefore, engaged in much study and discussion of alternative approaches to adjustment, and the accounting professions in the United States and Britain have taken initiatives to introduce inflation accounting, which involves adjusting inventory and depreciation allowances from the traditional "historical cost" basis to a "current" or indexed basis. It also involves adjusting nominal interest payments to reflect the decline in real value of outstanding liabilities that are fixed in dollar terms (which include virtually all business debt).

The Canadian Institute of Chartered Accountants recently made a start in this direction by issuing experimental standards for adjusting for the effects of changes in prices. It asked large firms to use these standards to provide supplementary information in their financial statements. These supplements are, however, voluntary, and so far, the number of firms issuing them has been insufficient to allow a clear assessment of their usefulness.

- The tax treatment of business income, interest income, and capital gains requires inflation adjustments similar to those needed for accounting purposes.⁵ The tax authorities have introduced certain *ad hoc* offsets to the lack of formal inflation adjustment, such as accelerated rates of depreciation, the 3 per cent inventory allowance, and the \$1000 interest-income deduction. The extent to which these measures have offset the tendency of effective tax rates to rise under inflationary conditions is not entirely clear. It is clear, however, that the degree of offset they provide differs from one industry to another and among firms in the same industry. Formal inflation adjustment would result in a more neutral tax system. It would also lessen the incentive, which the unindexed system creates because of the full deductibility of nominal interest costs, to finance through debt rather than equity.

To introduce inflation adjustment would result in a loss of tax revenue, but the loss could be offset, at least partially, by eliminating the *ad hoc* provisions.

- Indexed financial instruments, such as bonds and mortgages, the principal value of which is linked to a price index, have received considerable academic attention. The British government successfully introduced bonds of this type in 1981, but no such instrument has been seen in Canada or the United States. In their absence, savers and borrowers inevitably face uncertainty about the impact of inflation on the real value of their assets and loans. In addition to eliminating this uncertainty, indexation would provide a straightforward way of eliminating the front-loading of real payment streams that is characteristic of conventional bonds and mortgages under inflationary conditions.
- Some limited indexing of private pensions exists in Canada, and the federal government has put forward proposals that would require at least a degree of indexation to be applied more broadly in the future. The lack of fuller indexation of private pensions is partly related to the absence of indexed financial instruments; private pension plans cannot guarantee fully indexed payments as long as they are not able to invest in indexed assets. Partial indexing might be achieved, however, by relating benefit levels to interest-rate levels, as under the federal proposal.

We Commissioners recognize the complexities that reform in each of these areas would entail. We recognize, as well, that indexation would not be an unmixed blessing. In addition to adding complexity, widespread use of indexing, particularly of wages and salaries, is destabilizing under some circumstances with some types of indices. For example, if Canada experienced a rise in import prices with no corresponding rise in export prices, the CPI would rise, although the economy's ability to pay for goods and services, domestic and foreign, would not have increased. In these circumstances, indexation would preserve some real incomes and not others, thus tending to create an inflationary spiral and concentrating the necessary downward adjustment on the unindexed sectors.

Nevertheless, we judge that the greater use of inflation adjustment or indexation would, on balance, be beneficial in all four of the areas listed. Use

of indexed bonds, for example, could lower the real cost of public-debt charges (because current, long-term, nominal interest rates appear to include a premium against the risk of renewed inflation). A period of low inflation and low inflationary expectations is, in our view, the least disruptive time to make this institutional change.

Moreover, the risks associated with certain inflation-adjustment mechanisms can be reduced by using indices more appropriate than the unadjusted CPI. The ideal index would not be sensitive to supply shocks, shifts in the terms of trade, or changes in indirect taxes. The National Accounts use a deflator to show price changes of the gross domestic product (GDP) at factor cost; the CPI can be adjusted to eliminate the impact of changes in import prices, indirect taxes and possibly food prices. Either might be an appropriate measure for the indexation of financial instruments, such as bonds or mortgages, of pension benefits, and of the taxation of business and investment income. These measures might also be considered as replacements for the CPI in providing standards for indexing personal income-tax exemption levels and tax brackets, and for at least some indexed transfer payments, such as Family Allowances.

The Regional and Federal-Provincial Aspects of Stabilization Policy

Both the federal nature of Canada and the broad diversity of its several regions raise a number of issues about economic stabilization policy. Should the federal government differentiate stabilization policy by region? Do stabilization-policy actions discriminate against some regions? Has the post-war decrease in the federal share of total government expenditures and revenues diminished the federal government's ability to apply effective stabilization measures? Do we need greater federal-provincial co-ordination of stabilization policy?

Regional Differentiation of Federal Policy

We turn first to the recurring question of whether the federal government should attempt to differentiate its fiscal and monetary policies regionally. At the most general level, substantial differentiation already exists if "regional fiscal policy" is taken to include all government revenues and expenditures. Such differentiation is effected explicitly through equalization grants and through expenditures by the Department of Regional Industrial Expansion (DRIE). The federal income tax and the system of transfer payments to persons also involve implicit regional differentiation, which is created by the relationship of the income tax and some transfer payments to per capita incomes, and by the relationship of UI benefits to unemployment rates. Notice that differentiated tax rates (or the depreciation provisions of the corporate income tax) provide an alternative means of achieving the objectives of current expenditures by the Department of Regional Industrial Expansion. This was the practice in the early 1960s, and it is currently a feature of the investment tax credit.

Regional Fiscal Policy

Many people use the term "regional fiscal policy" in a more restricted sense, referring to regional differentiation of temporary variations in taxes or expenditures that are motivated by considerations of stabilization policy. Canada's experience with regionalization of this type of policy has been limited. The most significant use has been the allocation of funds under direct employment programs.

Should this type of regionalization be expanded? Basic to any consideration of this issue is the fact that cyclical conditions in Canada's regions generally vary in a similar way. (If this were not so, there would be few grounds for any stabilization policy at the national level.) When exceptions occur, it is usually because some export-oriented industry that is important in the region is experiencing particularly favourable or unfavourable conditions. Such a situation may well require fundamental structural adjustment rather than smoothing of a cycle. Moreover, the federal personal income-tax and personal transfer systems (particularly Unemployment Insurance) automatically help to stabilize fluctuations in regional conditions, regardless of whether they coincide with average conditions across the nation. Moreover, when unfavourable regional conditions obtained, the federal government has on occasion provided assistance directly to the industries involved.

Some observers suggest that the above-average unemployment rates that almost always prevail in certain regions indicate a continuing state of inadequate demand.⁶ Their calls for a response of differentiated stabilization measures amount to advocating either:

- More-than-average stimulus to a "poor" region when general economic weakness leads to stimulative fiscal policy nation wide
- Exemption of a "poor" region from restrictive national policies when the national average of economic activity is strong.

Proponents of regionally differentiated stabilization policy have not reached consensus on which option they prefer. In fact, it is sometimes less than clear which of the two an individual proponent favours. Such lack of agreement is not surprising, since each option has its advantages at different points in the cycle. If the federal government provides "extra-strength" stimulus to a depressed region during a recession, there will be outcries when assistance is evened out as the economy recovers that "Federal assistance is being cut back more here than in prosperous regions." Moreover, if a depressed region is exempt during periods of national restrictive policy, there will be criticism as the economy swings into recession that "Less is being done here to prevent the slide than in more prosperous regions." Furthermore, although the second option might increase the average level of activity in the region affected, it would lead to less stabilization of activity there than would a policy of making no differentiation.

In sum, given Canada's pattern of broadly similar cyclical conditions across regions, a region could gain from a differentiated fiscal stabilization policy during some phases of a cycle, but it would appear to lose from such a policy during other phases. Thus, the attractiveness, political or economic, of either option is doubtful from any longer-term perspective.

Implementation of both options, on the other hand, would go beyond stabilization policy. Together they would amount to permanent differentiation in favour of a given region: in other words, to an enlarged version of what is already done through the Department of Regional Industrial Expansion, equalization, and the national tax-transfer system. And although the pursuit of both options might raise the average level of activity in a region, it would do nothing to increase its stability. If such a permanent regional policy is considered desirable, it seems unlikely that differentiation in the types of taxes and expenditures generally used for national stabilization policy would prove the most effective instrument.

Monetary Policy

Regional differentiation of monetary policy presents a rather different problem. Apart from any questions about its desirability, it is simply not a practical possibility within a common currency area. Given the mobility of financial capital, we cannot expect to maintain differential interest rates on general loans of the same risk class. This practical consideration does not, of course, rule out the use of interest-rate subsidies tied to the location of physical activity. Such subsidies could be provided through explicit government-expenditure measures; in principle, they could also be achieved through implicit subsidies, such as variations in banks' reserve requirements tied to their patterns of lending for investment in specific regions. In this Commission's opinion, however, such interest-rate subsidies are more usefully viewed as a part of fiscal policy rather than of monetary policy.

Regional Complexities

Another issue here is whether national policies impinge in unintended ways on particular regions. Critics sometimes suggest that because tight monetary policy causes exchange-rate appreciation (or reduces depreciation than would occur under a mix of looser monetary and tighter fiscal policy), it has particularly severe effects on regions where raw-material exports are of above-average importance, particularly the West. Alternatively, heavy fiscal restraint tends particularly to affect Ontario and Quebec, where manufacturing industries are the most directly oriented to the domestic market.

These points seem to have some substance. It is never possible to find policies, alone or in a mix, that achieve perfect neutrality across regions. Nonetheless, the broad regional effects should be a factor taken into consideration in determining the monetary-fiscal policy mix.

The Relative Size of the Federal Sector

Whether the growing size of the provincial-local sector has impaired the potential effectiveness of federal fiscal action for stabilization is an issue that has been considered at length in two discussion papers prepared for the Economic Council of Canada.⁷ The author points out that while the provincial-local sector has grown significantly, relative to the economy and

relative to the federal sector, the federal sector has also grown slightly relative to the economy. Thus, as long as provincial-local spending is no less stable than the private sector spending it has displaced—and it is probably more stable—there are no grounds for concluding that the federal sector is less able to achieve any given degree of stabilization than it was in the 1950s.

This is not to deny that enhanced co-ordination of federal-provincial action would be helpful. The issue seems to be whether more formal approaches to co-ordination, perhaps in the form of formal agreements, would be superior to our current informal approaches: annual or more frequent meetings of Canada's eleven finance ministers plus occasional First Ministers' Conferences. The answer depends, in part, on whether we can realistically aim for more co-ordinated outcomes, given a system in which both levels of government have full responsibility for their own budgetary actions. (Institutional arrangements that might enhance federal-provincial consultation and co-operation are discussed in Part VI.)

A final issue is whether there are areas in which new institutional mechanisms for federal-provincial co-ordination might be particularly advantageous. A research study prepared for this Commission suggests that greater co-operation might enhance stabilization by achieving a counter-cyclical pattern of public spending on capital projects.⁸ Capital expenditures constitute an attractive instrument of stabilization policy because their effects are concentrated in the particular areas in which the projects are located. The advantages of a co-operative approach arise because most such projects are carried out by provincial or local governments, but the responsibility for stabilization is viewed as primarily federal. More co-ordination in this area might be achieved either through a formal stabilization fund or through *ad hoc* measures, such as those that the federal government initiated in the early 1970s to stimulate provincial and local capital spending.

Notes

1. Clearly nothing can be done, in a relatively free-trade world, about the fact that our real exchange rates may move differently from those of our individual trading partners. This fact poses particular problems of competition for individual industries and regions even when the average or trade-weighted real exchange rate can be viewed as reasonably appropriate.
2. This analysis can be summed up by the so-called "interest parity" relation, which suggests that under conditions of full capital mobility:
 - Interest rates in Canada = U.S. interest rates + expected change in Canadian \$ price of the U.S. \$.
 - An expected depreciation is represented by a positive value in the second term on the right-hand side (an expected rise in the price of U.S. \$ measured in Canadian \$) and thus leads Canadian interest rates to exceed U.S. rates. An expected appreciation is shown as a negative value in the same term and thus leads Canadian interest rates below U.S. rates.
3. Such a measure would, in principle, permit real interest rates in Canada to be maintained at lower levels than those ruling in the world at large. However, the fact that Canada, although currently running a balance-of-payments surplus, is still a net debtor on international account somewhat qualifies our ability to reduce domestic interest rates by this means.

4. Peter Howitt, "Indexation and the Adjustment to Inflation in Canada", in *Post-War Macroeconomic Developments*, vol. 20 (Toronto: University of Toronto Press, 1985).
5. Substituting the expenditure basis for the present income basis of personal taxation (and the cash-flow basis for the income basis of business taxation), as discussed earlier in Part III, would obviate the need to index the tax system.
6. However, as two research papers prepared for this Commission suggest, most of these long-lasting divergences in unemployment appear basically non-cyclical in nature. See Yves Rabeau, "Regional Stabilization in Canada" in *Fiscal and Monetary Policy*, vol. 21; and Robert L. Mansell and Lawrence Copithorne, "Canadian Regional Economic Disparities: A Survey" in *Disparities and Interregional Adjustment*, vol. 64 (Toronto: University of Toronto Press, 1985).
7. Pierre Fortin, *The Comparative Size of the Federal and Provincial Budgets and Economic Stabilization*, Discussion Paper 211 (Ottawa: Economic Council of Canada, 1982), and *Provincial Involvement in Regulating the Business Cycle: Justification, Scope and Terms*, Discussion Paper 213 (Ottawa: Economic Council of Canada, 1982).
8. Rabeau, "Regional Stabilization in Canada".

A Role for Incomes Policies?¹

Commissioners use the term “incomes policy” broadly, to refer to policies of intervening in wage and price setting in order to influence the overall rate of inflation.² This definition covers a wide range of policy initiatives, including exhortation or “jaw-boning”; guidelines for, or agreements on, acceptable levels for wage and price increases; statutory controls on wages and prices (or profits); and tax-based incomes policies (TIPs), which provide incentives for restraint through taxes or subsidies. It is usually governments that undertake such interventions, but in some countries, especially those which practise centralized bargaining between national labour and business organizations, incomes policies are privately administered under the government aegis.

The industrialized world has a rich post-Second World War history of experience with incomes policies from which we can draw some conclusions about their advantages and disadvantages. In Canada, these experiments included a number of attempts at voluntary restraint, one of which involved the creation of a special agency, the Prices and Incomes Commission of 1969 to 1970. In addition, mandatory wage and profit controls were a key part of the Anti-Inflation Program of 1975 to 1978, and wage controls were applied to public sector employees in the federal “Six-and-Five” program and in associated provincial programs which began in 1982, and some of which are still in effect. The United States employed incomes policies during the Korean War period (the Wage Stabilization Board of 1950 to 1953), during the Kennedy and Johnson administrations (the guideposts of 1962 to 1966), during the Nixon administration (the wage-price controls of 1971 to 1974) and during the Carter administration (the guidelines of 1978 to 1980). In many European countries, since the Second World War, periods with incomes policies of some form have been more common than periods without them.

The Potential Contribution of Incomes Policies

A variety of proposals for incomes policies have been put forth. One distinction useful to make at the outset is between measures to be designated as permanent and those to be designated as temporary. The distinction is important because the underlying rationale is different for each approach.

Is There a Case for a Permanent Incomes Policy?

Adoption of a permanent incomes policy is typically advocated on the grounds that the economy has an inflationary bias which makes price stability difficult or impossible to maintain. Two distinct arguments have been advanced:

- The decentralized setting of a vast multiplicity of wages and prices is socially inefficient because the workers and managers in individual firms do not take into account the inflationary costs that their actions impose on the rest of society. According to this view, a permanent incomes policy is required to deal with the divergence between private costs and social costs.
- The market power of large corporations and unions biases the economy towards inflation, making price stability and full employment incompatible.

Thus, a permanent incomes policy is required if full employment is to be maintained over time without generating inflationary pressures which would eventually make it impossible to maintain full employment.

Each of these arguments is worth examining in more detail.

The Prisoners' Dilemma

The view that decentralized wage and price setting results in social costs is based on the following rationale:

When business firms grant wage and salary increases in excess of the average growth rate of productivity in the economy, they impose a cost on society by producing the "public good" ("bad") called inflation. Yet they are not charged for doing so, and therefore do not take this social cost into account when they make their wage-salary decision.³

Another explanation of the inflationary process is that individual wage and price setters are in what is often called a "prisoners' dilemma" situation. In one version of this story, two criminals are arrested, charged with murder and locked in separate cells. The police have sufficient evidence to convict both of a lesser crime, such as breaking and entering, for which they would each receive a five-year prison sentence. Without a confession, however, the Crown will be unable to obtain a conviction on the murder charge. Each prisoner is informed individually that if he alone confesses and testifies against the other, he will receive a light sentence, while his accomplice will receive the maximum 30-year sentence. If both confess, the prosecution will recommend 20-year sentences.

If the two prisoners could collude, their joint optimal strategy would be for both to remain silent and accept the five-year sentences. But they are in separate cells, and each must act independently. Each individual's optimal strategy is to confess because, by doing so, he will obtain a lighter sentence *whatever the other prisoner chooses to do*. Thus, although both recognize that they would be better off if they could co-operate, neither will do so because each is forced to make an independent decision about his action. In these circumstances, both would be likely to welcome any means that would allow co-operation for their mutual advantage.

There are many real-life examples of prisoners' dilemma situations. A simple, but telling, example can be observed in the baggage-receiving area of the Vancouver airport. On the floor around each carousel is a white line. If everyone stood behind the line (the co-operative action), each individual would be able to see her or his luggage arrive without pushing, crowding or undue waiting. Once one individual edges forward, however, the others will follow in order to see. Individual decision making leads to a tight crowd around the carousel station; those in the front line are being shoved and those behind are unable to see their baggage; thus everyone is worse off.

U.S. President Jimmy Carter once used a vivid simile to describe the prisoners' dilemma aspects of the inflationary process: "Inflation is like a crowd at a football game. No one is willing to be the first to sit down."⁴ The

group as a whole prefers the co-operative outcome (everyone sitting down) to the non-cooperative outcome (everyone standing up), yet the non-cooperative outcome obtains.

Similarly, no one is willing to be the first to stop in an ongoing inflationary spiral of wage and price setting. Suppose that inflation has been running at approximately 10 per cent for some time, and the general expectation is that it will continue to do so in the future. Firms that wish to maintain constant relative prices for their products will, therefore, raise their prices by 10 per cent. Firms and workers who have agreed on a 3 per cent increase in real wages will settle on a wage increase of 13 per cent. With an average price increase of 10 per cent, real wages rising, on average, at the rate of productivity growth, the economy at the NAIRU, and a monetary growth rate per unit of output of 10 per cent, inflation will continue at the 10 per cent rate.⁵

This spiral could, in principle, be ended if all wage and price setters would simply not incorporate the expected inflation. For example, the firm planning no change in its relative price would maintain the current price, while the workers seeking a real wage increase of 3 per cent would accept a wage settlement of 3 per cent. Because the average increase in prices would be zero, there would be no subsequent pressure for higher wages to maintain living standards. Because wages increased at the rate of productivity growth, there would be no upward pressure on prices. The inflationary spiral would have ended. Without some co-ordinating or co-operative mechanism, however, all the wage and price setters will incorporate expected inflation in their behaviour, and the wage-price spiral will continue.

Clearly, the prisoners' dilemma applies to the inflationary process, but only with some restrictions. It is apt only if inflation is ongoing and the expected inflation rate differs from the desired rate. Furthermore, it only applies to the process of reducing the underlying rate to the desired rate; once the two rates are equal, the co-operative and unco-operative outcomes coincide. Individual wage and price setters are not permanently trapped in a prisoners' dilemma game. This suggests that the argument is stronger as a rationale for temporary controls than for permanent ones.

Secular Inflation

The second rationale for a permanent incomes policy, sometimes called the "theory of secular inflation", is based on the view that the market power of large corporations and unions gives the economy a built-in inflationary bias that makes full employment and price stability incompatible.

Although this theory cannot be completely rejected on the basis of existing knowledge, it appears to be inconsistent with the proposition, accepted by monetarists and Keynesians alike, that the economy has a natural unemployment rate, a NAIRU. It also appears to confuse high prices with rapidly rising prices; market power might well raise prices or wages for some goods or types of work above the levels that they would otherwise reach, but it cannot result in their rising more rapidly. Furthermore, it contradicts empirical evidence

which indicates that price stability can be achieved when there is extensive underutilization of plant capacity and unemployment.

Presumably, the proponents of the theory of secular inflation are suggesting that the market power of large firms and unions has pushed the NAIRU above what they regard, under the circumstances, as a realistic level of "full employment". Thus, to prevent inflation from increasing, it may be necessary to maintain levels of unemployment and excess capacity that are higher than is socially desirable.

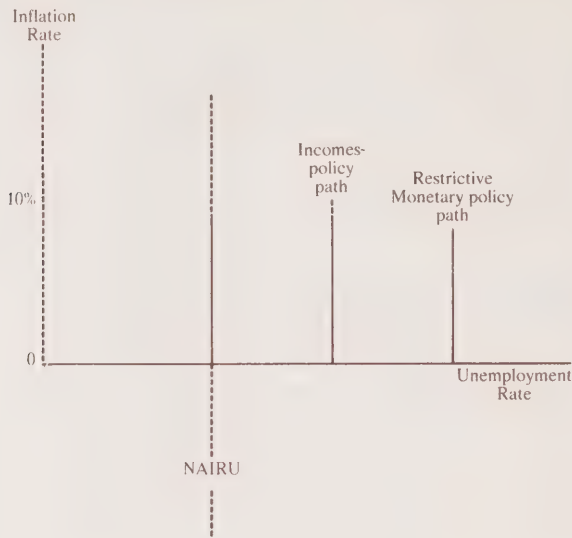
A permanent incomes policy is one option for reducing the NAIRU. This Commission's view, however, is that in the Canadian setting, this option is unattractive compared to others available, such as structural changes designed to improve the functioning of the labour market. Some countries, of which Austria is probably the best example, do appear to have used a more-or-less permanent incomes policy to achieve comparatively low unemployment rates without steadily rising inflation. However, the conditions that enable these essentially voluntary and privately administered policies to function do not exist in this country. A permanent incomes policy in Canada would have to be imposed and administered by government, either through statutory wage and price controls or through tax incentives. Co-operation of the federal and provincial governments would be required, for intervention in wage and price setting on a permanent basis lies outside federal jurisdiction. Such continuing intervention in our market economy would become extremely costly to our long-run prospects for income and employment growth. This Commission, therefore, rejects the institution of a permanent incomes policy as a means of dealing with inflationary pressures in Canada.

Is There a Case for a Temporary Incomes Policy?

Although the case for a permanent incomes policy may be weak, the rationale for a temporary incomes policy under certain circumstances appears to be considerably stronger. Winding down an inflationary spiral, for example, requires a prolonged period of economic slack, especially if inflationary expectations are deeply entrenched. These high costs provide the rationale for alternative or supplementary approaches. If an incomes policy will help to achieve reductions in inflation that are not purely transitory, then actual and expected inflation will tend to decline more rapidly than would otherwise occur for any given level of unemployment at or above the NAIRU. The transition from high to low inflation will thus have lower costs in terms of unemployment, bankruptcies and lost output. Figure 10-6 compares the transition paths of demand restraint and an incomes policy in moving from a high to a low inflation rate.

The view that a temporary incomes policy could successfully aid the transition to lower inflation rates appears, at the present time, to be widely held in Canada (but less so elsewhere) among laity and experts alike. Indeed, one knowledgeable observer terms it a "middle-of-the-spectrum view, which may perhaps by now be seen as the conventional Canadian wisdom".⁶ The fact that econometric studies indicate that the 1975-78 Anti-Inflation

FIGURE 10-6 Alternative Approaches to Inflation Reduction



Program had a significant independent effect on wage settlements has undoubtedly contributed to the development of this conventional Canadian wisdom.

Complementary Demand-Management Measures

An important part of the rather sanguine view outlined above is the proposition that an incomes policy must be carefully co-ordinated with a program of monetary and fiscal restraint. This proposition has two parts:

- To maintain the economy at existing levels of output and employment, the rate of monetary growth must be reduced by the expected reduction in price inflation. Thus, for an economy at the NAIRU, with an ongoing inflation of x per cent, an incomes policy intended to reduce inflation to y per cent should be accompanied by a reduction from x to y per cent in monetary growth per unit of output. If this does not happen, monetary and incomes policies will be working at cross purposes. One of the errors of some control programs instituted in several other countries was the belief that incomes policy could, by itself, reduce inflation while monetary and fiscal policies remained expansionary.
- The credibility of an incomes policy will be enhanced if monetary policy goes further and makes some independent contribution to reducing inflation. Credibility is important in affecting inflationary expectations,⁷ which suggests the need for operating the economy somewhat above the NAIRU. (The incomes policy path in Figure 10-6 illustrates this case.) The fact that the 1975–78 Anti-Inflation Program combined a gradual reduction in monetary growth with gradually declining norms for wage

increases may well account for its success relative to that of most incomes policies instituted elsewhere.

Incomes-Policy Options

Although we have suggested that an incomes policy is likely to be a useful component of a package designed to make the transition from a high to a low inflation rate, we have not yet discussed the form of such a policy. Yet it is important to do so because an incomes policy can take one of a number of forms, each with a distinctive blend of positive and negative features. In this section, we examine the various possibilities, from voluntary mechanisms to wage-and-price controls and tax-based incomes policies, in order to determine the real options available to Canada.

Voluntary Mechanisms⁸

One form of incomes policy is simply to establish broad national agreement among business, labour and government on the rate of change in wages and prices. The form of such an agreement is a guideline, or set of guidelines, that all three parties will respect in the general process of collective bargaining and determining prices.

A system of voluntary restraint along these lines would clearly have tremendous advantages for Canada today. It would avoid the conflicts and tensions often generated by mandatory controls and would accord with the desire of many Canadians, including the members of this Commission, to avoid, as much as possible, extending state intervention into our economic life.

Other countries have been able to rely on voluntary mechanisms for lengthy periods. During the post-war period, a number of European countries devoted considerable effort to developing institutions and decision-making processes that encourage ongoing collaboration between government and major economic interests. Countries such as Austria, Sweden, Norway, Denmark and, for a briefer period, West Germany established tripartite systems, which emphasize central negotiation and accommodation among the three "social partners"—government, business and labour—on a wide range of economic policy issues. Although these systems differ in important details, the heart of each was the development of a voluntary incomes policy.

In the view of a number of observers, the success of these economies, particularly during the 1970s, has rested substantially on the effectiveness of these mechanisms in achieving social consensus. This section, therefore, examines the European experience with incomes policies and the prospects for developing such voluntary co-operation in Canada.

The Tripartite Experience

In assessing the European experience, it is important to focus on two basic points. The first is the economic and political conditions under which voluntary incomes policies have been established and have flourished. The

second is the actual effect of such policies on the economic performance of the countries that have used them.

Virtually every student of European tripartism stresses the extent to which its mechanisms depend on features of the economic and political structures of the societies that rely on them. One such pre-condition seems to be the centralization of both economic and political authority. National federations of employers and trade unions cover the great majority of enterprises and the work-force, and these federations are capable of negotiating and concluding agreements that bind their members. Similarly, government authority to reach and to fulfil understandings about public policy is not fragmented among different bodies or different orders of government.

Certainly, the countries with the most experience in voluntary incomes policy are centralized societies. Politically, they are either unitary states or, like Austria and West Germany, centralized federations in which authority over economic policy is concentrated at the national level. They are also centralized in the practice of collective bargaining. The Scandinavian countries and West Germany have well-established employer federations; Austria achieves a similar concentration through compulsory membership in official "Chambers". A parallel pattern has developed within organized labour. Countries such as Austria, Sweden, Norway and Denmark have both high levels of unionization and trade-union movements that are the most highly centralized in the Western world, in terms of the national federations, financial resources and authority over their affiliates and members. This framework complements a highly centralized process of wage formation: direct or indirect government involvement in the negotiations is a common feature.

A second factor that facilitated the emergence of consensus mechanisms in these countries was political alliance between the governing party and the major economic interests. Although conservative-leaning parties in some countries were sympathetic to tripartite initiatives, modern tripartism, for the most part, was the creation of Social Democratic parties that were closely allied with organized labour. Social Democratic governments (or coalitions of which they were a part) gave a high priority to full employment and expansion of the welfare state. In addition, they brought with them to power a faith in economic planning and a determination that labour should participate more equally with business and government in the processes of policy formation. Indeed, Social Democrats often appealed to the electorate on the ground that their special relationship with labour made them uniquely able to deal with trade unions, to generate wider social consensus, and to minimize social conflict over the directions of economic change.

The presence of institutional and political factors conducive to tripartite decision making has not, however, meant that in these countries, consensus on incomes policy was easy to achieve or to maintain. Rather, voluntary collaboration is subject to continuing internal strains and to occasional collapse. In general, tripartism reduces the autonomy of all three of the parties and can thus generate severe tensions, not only between the main participants, but also within the organizations that represent them. Such conflicts can become particularly strong if a significant segment of the

membership of any participating organization perceives its leadership to be co-operating in the adoption of unpopular measures. This danger is greatest for labour organizations. Leaders of even the most highly centralized federations often discover that the price of acquiescence in unpopular courses is erosion of their membership levels or serious challenges from below.

Because of these strains, the tripartite approach in Western Europe has gone through a number of phases, each characterized by an active search for consensus on an incomes policy, and each marked at its close by instability or breakdown of participatory arrangements. The first phase covered the period of post-war reconstruction. A second phase, which began in the mid-1950s, eroded—and in some instances, collapsed—in the late 1960s, in reaction to the effect of wage restraint. In the words of a recent study by the U.S. Brookings Institution, the policies of this period:

... failed to provide significant rewards for cooperation. In particular, the distributional implications of most of the policies were not advantageous to labor, and efforts by national union officials to cooperate with the incomes policy objectives of their governments eroded the institutional authority of the officials over the rank-and-file membership. In fact, cooperation ... in several countries brought about reductions in real wage growth that were followed by grass-roots revolt, wildcat strikes, and the wage explosions of the late 1960s.⁹

The third phase of tripartism, which began in the very different economic circumstances of the 1970s, was often a complement, rather than an alternative, to deflationary policies. Thus, negotiations broadened beyond simple wage policy to a wider “social contract” in which governments offered workers various forms of compensation for their co-operation: wage indexation, price controls, tax reductions or increased social benefits, participation in management, improved legal protections for unions. These new arrangements, however, were unable to contain all the tensions. Breakdowns occurred in several countries, including Sweden and West Germany. Some countries, such as Britain, which had experimented repeatedly, if often unsuccessfully, with such initiatives, subsequently elected governments resolutely opposed to such forms of economic policy making. The predisposition to consensual forms of decision making may indeed be stronger in parts of Europe than in North America, but even in Europe, success is not guaranteed.

Over the last 20 years, however, no system of economic management has avoided periodic crises. The question remains, therefore, whether the voluntary approach, with all its internal strains, represents a better means than ours of managing a modern economy. An answer requires a judgement of the economic records of tripartite countries, and, unfortunately, systematic examination of the results of the consensus-seeking process is a difficult task. Existing studies tend to compare different countries over different time periods, and they often disagree on the contribution of incomes policies to the economic patterns they discover.

Some early examinations gave optimistic readings of the economic performance of countries that had adopted the tripartite approach. Recent studies, however, have produced important qualifications. One study

conducted for this Commission compared the performance of Austria, Sweden, Norway and several other countries with that of all the OECD nations over the last 20 years.¹⁰ As a group, the tripartite countries do not seem to have performed better systematically, according to a wide range of economic indicators including economic growth, profits and rates of return, investment levels and productivity. Nevertheless, on the two measures central to this section, inflation and unemployment, these countries did fare better, although the experience of individual countries differed. Austria's record is impressive by any standard, but in Sweden and Norway, inflation was above the OECD average throughout most of the 1970s and early 1980s. Unemployment rates in each of these countries were consistently below the OECD average, though the record has eroded recently. The present rates are still enviable by Canadian standards, but they are high by the norms established in those countries during the 1970s and early 1980s.

Perhaps the most decisive effect of economic tripartism has been that on the frequency of strikes. During the years between the two World Wars and the period that followed the Second World War, the decline in rates of strikes, in countries such as Austria, Sweden and Norway, was truly spectacular, especially given their previous histories of conflict. Indeed, it is possible that tripartism's major contribution has been that of reducing the levels of industrial and social conflict.

What conclusions can be drawn from this brief survey? Clearly, tripartite co-operation should be a serious contender for the management of a modern economy. Tripartite mechanisms have served some countries well, especially in particular periods. If, in the future, Canada were to face major new inflationary pressures, a voluntary incomes policy would offer real attractions. Nonetheless, important qualifications are in order. The success of this approach in various European countries has been facilitated by economic and political structures and relationships embedded in the fabric of their societies, and, even then, the process has not always been easy to implement. Moreover, voluntary restraint has not proved a magic formula yielding guaranteed economic success.

Consultative Approaches in the Canadian Environment

Clearly, the distinctive set of factors which have facilitated incomes policies in some European countries is, for the most part, not replicated in Canada. In the first place, Canadian institutions are characterized by the fragmentation of power, not by its concentration. In both economic and political institutions, authority is dispersed across competitive groups in ways that inhibit the centralized interaction that lies at the heart of tripartite systems.

In the political realm, our federal system divides authority over economic matters between the two orders of government. As a result, economic policy evolves through the independent, and often competing, actions of 11 governments. This constitutional division does not, of course, prevent federal authorities from discussing a voluntary restraint program with business and labour, but it does limit the prospects for reaching comprehensive agreement.

The federal government could not, for example, enter into any commitment concerning the salaries of provincial employees (who constitute a significant component of public sector unions) or the wide range of provincially regulated prices. A fully comprehensive agreement would, therefore, require discussions among business, labour, and Canada's 11 senior governments. The history of federal-provincial conferences does not encourage high expectations of such deliberations.

Fragmentation of authority also characterizes the institutions representing both business and labour in Canada. Business in this country certainly does not lack representatives. Some 480 nationally oriented business associations are in operation today; there are 102 associations representing various interests in the agricultural sector. In contrast to the European pattern, however, Canadian associations are fragmented, pluralistic and often competitive. The vast majority represent special-product interests, and they are not integrated into a central association that can speak for business as a whole. Even general associations, such as the Business Council on National Issues, the Canadian Chamber of Commerce, the Canadian Federation of Independent Business, and the Canadian Organization of Small Business, represent different elements of the business community. Moreover, these general groups are direct-membership associations that have no formal relationship with sectoral organizations, such as the Canadian Manufacturers' Association, or the many subsectoral associations; thus they cannot speak authoritatively for all business groups. (The closest Canada comes to central organizations is at the provincial level, where the Business Council of British Columbia and Quebec's *Conseil du Patronat* represent their constituents.) Most important, given their voluntary nature, these organizations would be hard pressed to bind their members to specific norms or even to commit the business community as a whole to a general course. We Commissioners believe that business associations have an important role to play in consultations on economic policy (a theme to which we return in Part VI of this Report), but they could do no more than encourage their members to adopt guidelines on wages and prices.

This pattern of dispersed authority is repeated in Canadian organized labour, which lacks the comprehensive centralized structures that sustain tripartism in Europe. In the first place, the proportion of the work force that is unionized is substantially lower in Canada than it is in Europe, and the problem of how to represent the interests of unorganized labour in any negotiations is controversial. Even more important is the pluralistic nature of the Canadian labour movement. Whereas West Germany, for example, has a total of 16 unions, Canadian unions are highly fragmented, and most of them are small. In 1980, the labour movement in Canada comprised 734 unions; two-thirds of these had fewer than 10 000 members, and 40 had fewer than 22 members. This organizational fragmentation is the counterpart of highly decentralized processes of collective bargaining. Although there is some variation from industry to industry and from region to region, most collective bargaining in Canada takes place between a single union and a single employer, in a single location. Even in spite of informal linkages among units,

the system ranks among the most decentralized in the world. Certainly it is in stark contrast to the centralized structures of nations that have adopted the tripartite approach. As one commentator says of Canadian labour:

[Centralization] is minimal when compared to the nations of Scandinavia and Continental Europe ... where multi-employer structures are the rule. In Canada, only about 8 per cent of units covering 25 per cent of the workers in the sample bargain under multi-employer structures, and a significant portion of these units are local in scope. Again, this contrasts with Scandinavia and Continental Europe where industry wide bargaining at the regional or national level is common. Only the United States and the United Kingdom exhibit comparable levels of decentralization.¹¹

This fragmented structure generates a parallel pattern at the national level. The Canadian Labour Congress (CLC) is certainly the predominant central federation and the one best positioned to engage in broad national discussions. Nevertheless, the CLC cannot claim to speak for all organized labour because Canada has several separate federations. Moreover, the real economic power of most unions – the power to organize and bargain collectively – rests firmly with their locals and is exercised within a tradition of considerable local autonomy. The central federation remains a voluntary association of unions, regulating relations among affiliates and representing their collective interests to governments. Neither the executive of the CLC nor the executives of most of the affiliated unions have much ability to commit locals to movement-wide courses of action.

The implications of this dispersed authority become clear as soon as attention turns to a voluntary incomes policy. The discussions of 1976–77, on ending the mandatory wage and price controls then in place, foundered partly on this very point. As the author of a study prepared for this Commission observes:

There was no precedent in Canada for a union central adopting a wage negotiating guideline. The CLC does not have the internal machinery for assessing any such standard or for generating consensus around it. Thus, even if the CLC leadership had seen such a standard as being in the interest of its members, they would have been making a radical change in their practices by endorsing it, and would have done so at considerable risk to themselves. They had no mandate from the 1976 convention to engage in this kind of activity, and would have been held accountable for their actions at the 1978 convention.¹²

In contrast to the European pattern, then, the fragmented nature of our Canadian political and economic institutions constrains development of a voluntary incomes policy. The underlying political relationships among business, labour and government are different here as well. As we noted earlier, a key factor in the emergence of tripartism in Europe was the formation or control of governments by Social Democratic parties which were closely allied with organized labour. Union leaders tended to be in broad agreement with the overall direction of economic and social policy, which encouraged their co-operation in the risky business of incomes restraint. In Canada, however, the close relationship between organized labour and the

New Democratic Party (NDP), which has yet to win power nationally, complicates the process. Organized labour faces an enduring tension between its longer-term political objectives and co-operation with the government of the day, a tension that contributes to considerable ambivalence about the value of consultative arrangements generally. Indeed, within the labour movement as a whole, there remains considerable scepticism about whether anything that goes beyond the collective bargaining process will protect the interests of its members.

Given this institutional and political context, it is perhaps not surprising that attempts to develop a voluntary incomes policy have been unsuccessful in Canada. In 1969, the federal government appointed the Prices and Incomes Commission, which attempted to negotiate a package of commitments to restraint among business, labour and governments. After a series of exploratory meetings, however, the CLC and the Confederation of National Trade Unions jointly rejected the call for voluntary guidelines. The Prices and Incomes Commission continued its efforts, and at a national conference in February 1970, it managed to secure broad agreement from the business community to restrain price increases. However, a subsequent attempt to develop a guideline of 6 per cent for wage and salary increases failed, in the face both of continued opposition from organized labour and of the federal government's own acceptance of several public sector settlements that exceeded the guideline. Without meaningful commitments on wages and salaries, the program of price restraint expired at the end of 1970.

In response to another acceleration in inflation in 1974, the then Finance Minister John Turner attempted to achieve consensus with business and labour on the necessity of exercising voluntary restraint. He initiated a round of discussions which extended into a series of 20 meetings that came to be known as the "consensus talks". The exercise took place at two levels. At the political level, it involved the minister, business leaders he had selected, and officers of the CLC. The intent, on the government's side, at least, was to reach a common understanding of Canada's economic situation as a foundation for an agreement on appropriate measures of restraint. However, in April 1975, when the government proposed a voluntary guideline for wage increases of 12 per cent (up to a maximum of \$2400), with parallel limitations on increases in prices and profits, the CLC quickly rejected the proposal. In October 1975, the government imposed a mandatory controls program.

In September 1976, on the government's initiative, another round of consultations, known as the "post-controls talks", began to explore the possibilities of an early exit from controls (scheduled to run until 1978) and of agreement on post-controls policy. At the outset, the government, which was represented by the Prime Minister, several ministers, and a very few senior officials, met separately with business and with labour. In early 1977, however, business and labour leaders discovered that they had shared interests in an early end to controls and an improved system of consultation with government; thereafter, the meetings were tripartite. In June 1977, the government made specific proposals: controls would end in 1977, one year ahead of schedule, if business and labour would make certain commitments

on wages and prices; if these sectors did not respond within two weeks, controls would run their course. The CLC rejected the proposals and effectively terminated the consultation process.

The Scope for Voluntary Mechanisms

Despite the undeniable attractions of relying on voluntary agreement in developing an incomes policy, the structure of our institutions and the complexities inherent in our political relationships limit the applicability of the tripartite model in this country. There is undoubtedly great scope for consensus-building mechanisms, especially mechanisms to support a continuing national dialogue about our economic problems and prospects. Nevertheless, our expectations for incomes policies must be conditioned by our experience. The desirability of consensus in a democratic society suggests that a voluntary program should always be the first preference of Canadian governments. Moreover, there are signs that the experience of the recent recession is promoting reconsideration of traditional attitudes towards incomes policies; if Canada once again faced serious inflationary pressures, incomes restraint might well receive much more sympathetic consideration than it has evoked in the past. Nevertheless, the prospects for developing an effective, purely voluntary, incomes policy remain uncertain at best.

Statutory Wage and Price Controls

Given the lack of past success with voluntary mechanisms as a means of restraining inflationary pressures in Canada, government is left to choose among other policy options: statutory wage and price (or profit) controls; a tax-based incomes policy; or the application of macro-economic policy alone (a course that will almost certainly involve recession).¹³ None of these courses is very appealing, but they are the options from which a government must choose.

Statutory wage and price controls are at least easy to conceptualize. They attempt to achieve by fiat what the structure of the economy makes difficult to obtain otherwise: a reduction in the actual rate of inflation, without a substantial increase in unemployment. They are often part of an inflation-reduction package that also includes monetary policy geared to reducing the growth of the money supply in step with reducing inflation.

If the public can be convinced that the reduction in inflation achieved by controls is not simply temporary, inflationary expectations will decline, and this development will result in less inflation for each level of unemployment. As long as appropriate monetary policy accompanies the controls, there is no reason for higher inflation to resume after the controls end and, therefore, no reason why the public should expect it to resume. In other words, using controls as part of a package to enable the economy to make the transition from a high inflation rate to a low rate does not involve "fooling" the public in any way. This point is important because potential success over the longer term depends on public expectations that inflationary pressures will not erupt again following the removal of controls.

The Benefits of Controls

The potential benefits of temporary wage and price controls are clear. How well have these programs worked in practice? Attempts to control rising prices by government fiat have been made since Biblical days. The majority were largely unsuccessful because the source of inflationary pressures – an increase in the quantity of money or some other cause of excess demand – was not removed. Here, however, we are reviewing a much more sophisticated form of incomes policy, one in which the stipulation of norms for wage and price increases is accompanied by appropriate reductions in the rate of growth in the money supply.

The experience of Western nations, including the United States and the United Kingdom, with statutory incomes policies in the post-war period has not been overwhelmingly favourable. In many instances, the policy appears to have had little effect. In others, the results were only temporary, and the removal of controls was followed by a wage or price “bubble”. In many of these unsuccessful cases, however, the controls were not combined with the appropriate monetary restraint. To date, Canada’s 1975–78 Anti-Inflation Program (AIP) is probably one of the best examples of a statutory incomes policy introduced as part of a package that included restraint on monetary growth. Thus, the case for using wage and price controls rests, to a considerable extent, on this experience.

How successful was the AIP? To assess the effect of a controls program is not an easy task. Any reduction of inflation that occurred during the program could have had other causes. Alternatively, even if inflation did not decline (perhaps because of unavoidable increases in import prices), prices might have increased more without the controls. In other words, to establish the effects of the controls, analysts must determine what would have happened in their absence under otherwise identical circumstances. A number of empirical studies have addressed this issue. Most conclude that the AIP lowered wage increases by 2.5 to 4 per cent per year during the three years it was in operation. It is estimated that a comparable reduction in wage inflation by means of monetary restraint alone would have required unemployment rates of approximately 12 to 13 per cent, as compared with the 7 to 8 per cent actually experienced.¹⁴

The AIP’s effect on price increases was less impressive. The controls, which affected prices only indirectly, by putting restraints on profits, influenced only about 60 per cent of the commodities that make up the Consumer Price Index. The annual rate of change in the CPI declined from about 11 per cent in the two years before the introduction of the AIP to 7.5 per cent in the first year of the program and to 8 and 9 per cent respectively in its second and third years. The substantial drop during the first year came primarily from a reduction in food prices that had little to do with controls. In the second and third years of the program, on the other hand, substantial increases occurred in the prices of food, energy and imports, which were uncontrolled, and which offset the downward pressure on controlled prices. As a result of these unanticipated inflationary shocks in 1977 and 1978, the program did not fully achieve its objectives. However, these shocks would have tended to raise the

inflation rate in any event: estimates indicate that in the absence of controls, price inflation would have been 1 to 2 per cent higher in each of 1977, 1978 and 1979. The lag is notable. Although the program had little independent effect on prices in its first year because existing wage contracts were not abrogated, its effect on price inflation became greater as time went on; it peaked in 1979, the year following the end of the program.¹⁵

Profit margins declined during the AIP, but the fall appears to have resulted, primarily, from the slow-down in economic activity. In other words, the program's profit controls do not appear to have exerted any significant independent effect, at least for the economy as a whole. Thus, the AIP's effect on price inflation resulted chiefly, if not entirely, from the lower rate of increase it induced in labour costs through lower wage inflation. Empirical studies also indicate that no wage or price bubble developed in the post-controls period. The AIP experience, therefore, supports the view that direct wage and price controls can aid the transition from high to low inflation rates, a view in line with conventional Canadian wisdom.

No studies have yet been published about the effectiveness of the Six-and-Five program of wage controls in the public sector, implemented by the federal and most provincial governments in 1982 and 1983. There is no doubt that wage settlements in the public and private sectors did decline markedly in 1982. The difficulty is to determine how much of the decline was associated with the severe recession and how much with the AIP controls. A complete answer must await careful econometric research, but a simple inspection of the data suggests that the 6 per cent ceiling imposed in the first year of the federal program had some independent effect on public sector wage settlements. However, the 5 per cent ceiling used in the second year of the program was, in retrospect, probably too high; it seems to have resulted in some settlements that were higher than they would have been in its absence. This phenomenon illustrates one of the problems inherent in setting wage or price norms far in advance: these norms may turn out to be inappropriate for the economic conditions prevailing at the time they take effect.

The Costs of Controls

Since virtually every Western industrialized country has adopted some form of incomes policy at various times, the cost of these policies is well documented. The costs associated with direct wage and price controls are by no means trivial. The administrative costs alone are considerable. Controls require a bureaucracy to monitor wage and price increases and to ensure compliance with the guidelines. (One of the most difficult and expensive tasks this agency faces is the costing of non-wage benefits.) Reporting procedures also impose a cost burden on the private sector. In addition, there are the costs of distortions associated with general wage and price limits, which block the relative changes that otherwise would have been made in response to economic forces in the market-place. A simple example illustrates this point.

Suppose that the economy has five commodities, each providing 20 per cent of GNP and each subject, in the absence of an incomes policy, to different

future price increases. An ideal incomes policy would scale down all the prospective increases by some common percentage, thus preserving the relativity of the planned changes and ensuring that no adverse effects interfered with the normal functioning of the economy. If the goal of the incomes policy were to reduce the inflation rate from 6 per cent to 3 per cent, the distribution of price changes would look like this:

Commodity	1	2	3	4	5
Proportion of GNP	20%	20%	20%	20%	20%
Planned percentage increase in price	2	4	6	8	10
Non-inflationary price increase	-1	1	3	5	7

The downward pressure would be proportionately the same at all points, maintaining the relative distribution of prices that would have occurred without controls.

In a normal program, however, the limits imposed are absolute. Suppose that the program sets a 3 per cent limit on price increases for all commodities. The distribution of price changes will look like this:

Commodity	1	2	3	4	5
Planned percentage increase in price	2%	4%	6%	8%	10%
Price increase under controls	3	3	3	3	3

The distribution of prices is now skewed from what the market-place would have achieved in the absence of the program. The control ceiling becomes a floor for some commodities and, for others, seriously undercuts proper value. Without controls, any given year sees considerable variation in negotiated wage settlements and price increases. A controls program that sets upper limits, even with allowance for costly administrative exceptions, is bound to alter this distribution in undesirable ways. Moreover, application of the ceilings to all settlements is bound to involve some inequities, which can undermine support for the program.

Constitutional and Political Issues

Considering statutory wage and price controls for Canada raises various constitutional and political issues. Some of these issues stem from the division of powers between the federal and provincial levels of government. In effect, the division of powers limits the federal government's capacity to mount a statutory controls program, although the limits it imposes may not be as extensive as they seem at first thought.

Under normal circumstances, prices and incomes lie largely within provincial jurisdiction, as matters of "property and civil rights" fall within the powers of a province pursuant to section 92(13) of the Constitution Act, 1867. (The federal Parliament may, of course, legislate incomes policies in the federally regulated sector, which includes banks, airlines, railways, and

federal Crown corporations, and in the federal public sector.) However, the Anti-Inflation Act, passed in 1975, gave the federal government regulatory authority over prices, profit margins and wages in selected areas of the private sector. It also applied directly to the federal public sector, and it authorized the government to enter into agreements with the provinces to apply the AIP to the provincial public sectors. Administered by a federal tribunal, the Act was to be in place until 1978 unless the AIP was terminated earlier.

Several trade unions challenged the constitutionality of the Act. Responding that the legislation was grounded in its emergency powers, the federal government, in 1976, referred to the Supreme Court of Canada for a ruling. In a seven-to-two decision, the Court held that the Act was valid under the federal power to make laws for the "Peace, Order, and good Government of Canada" in an emergency situation, even in peacetime.

The case seems to have established several key points for the future. First, the Court will not ask whether there is evidence of an emergency, but rather whether there is a "rational basis" for the legislation. Secondly, extrinsic evidence, such as economic briefs or government white papers that bear on the issue, will be admissible as evidence that such a rational basis exists. Thirdly, the onus is on the opponents of the legislation to show that it has no rational basis. Fourthly, the Court will not consider the wisdom or likely success of the legislation. Thus, this case indicates that the federal Parliament may introduce a statutory wage- and price-control program in an emergency, provided that the legislation has a rational basis. Furthermore, the Court is unlikely to question the government's assessment of emergency conditions.¹⁶

One important limitation, however, is that emergency legislation is inherently temporary as the majority of judges firmly indicated in 1976. A permanent system of federal wage and price controls would have to be created by both levels of government or sustained through an amendment to the Constitution. Moreover, if the federal government resorted to a succession of "temporary" emergency programs, the nature of the "emergency" would become legally suspect, and difficulties in federal-provincial relations would certainly be exacerbated.

The Canadian Charter of Rights and Freedoms may also have some implications for the conduct of incomes policy. Such a policy restricts what collective bargaining can achieve, but it does not interfere with an individual's right to join or form a union. Thus temporary wage controls would not appear to contravene the freedom of association that the Charter guarantees. Most incomes policies, however, are selective in their coverage. For example, the AIP guidelines applied only to firms with 500 or more employees; firms whose employees bargained in an association with employees of other firms; construction firms with more than 20 employees; federal government and Crown-corporation employees; employees of participating provincial governments; and members of professions. A policy that covers only part of the labour force could be challenged under the equality provisions of the Charter.

Political complications also surround statutory programs. Controls are more likely to succeed if both business and labour support them, but to

attempt to gain that support raises the same set of constraints and tensions examined in our consideration of voluntary mechanisms. The fact that wages are easier to control than many prices may increase suspicions that the program is essentially anti-labour in nature. Even if a program is not intended to slow growth in real wages, it may have this effect if unanticipated inflationary shocks hit the uncontrolled-prices sector. Each occurrence of differential treatment makes it more difficult to obtain the co-operation and, at the extreme, the compliance of labour in future anti-inflationary efforts. (This was the fundamental logic of a wider and wider range of public policies that underlay the extension of the "social contracts" negotiated in Europe during the 1970s.)

Another problem arises from the fact that it may be politically difficult to lift established controls from certain sectors. Rent controls still exist in some provinces, for example, as a legacy of the "temporary" 1975-78 AIP.

More generally, incomes policies extend political authority over a wide range of private activity, dramatically increasing the state's responsibility for the fate of the economy. They also transfer more of society's distributional function into the public realm. Government has long been involved in income redistribution through the tax and social-benefit systems, but an incomes policy makes the state much more clearly the final arbiter of income differentials. The psychological difference is important. Although the allocative outcomes of markets may not always seem fair, the process is reasonably anonymous. An incomes policy, on the other hand, places distributional questions at the very centre of the government agenda and inevitably injects conflicts over these questions into the political process. The difficulty is that without broad social consensus on the ideal distribution of the nation's resources, governments are hard pressed to fine-tune income differentials, especially in a period of stagnant or even declining real incomes. The danger is that the conflicts generated by the effort may seriously exacerbate political tensions throughout society.

There is no inevitability here. A number of European countries have managed to contain the pressures; indeed, incomes policies have probably helped to reinforce political stability in some: Austria is a case in point, although the contrary experience of Britain should also be noted. In Britain, the collapse of incomes policies, both statutory and voluntary, has often inflicted drastic consequences on their political authors: we cite the experience of the Conservative government of Prime Minister Edward Heath in February 1974 and that of the Labour government of Prime Minister James Callaghan in March 1979.

In addition to all these considerations are the costs deriving from interference with individual freedom. The fact that these are difficult to measure does not mean either that they are insubstantial or that they are unimportant.

The Case for Temporary Controls

As part of a package including moderate demand restraint, temporary statutory wage and price controls are probably a better choice for society than

is severe demand restraint for a limited period or prolonged moderate demand restraint. Government may, however, be reluctant to choose statutory controls because of uncertainties about its constitutional authority to do so and because of objections from opposition parties and other groups, particularly organized labour. If inflation rises again, however, the government might do well to institute controls and so avoid the recession that must result from reliance on demand restraint alone. If it does initiate controls, it would do well to emphasize that the major beneficiaries of a successful wage- and price-control program are the workers who would otherwise have been laid off, the owners of firms that would otherwise have gone bankrupt, and the many others whose income and employment prospects would otherwise have been reduced. Recognition of these benefits would contribute to support for such policies.

Tax-Based Incomes Policies

The difficulties associated with demand restraint and statutory controls provide the rationale for proposals of tax-based incomes policies (TIPs). The measures suggested vary in several ways, but their central feature is that they create incentives for moderation in wage and price increases. On the one hand, like direct controls, these policies promise to avoid the high unemployment and lost output associated with controlling inflation solely by means of monetary and fiscal restraints. On the other hand, these policies attempt to use, rather than supplant, decentralized mechanisms of individual decision making and collective bargaining, preserving informational advantages and permitting freedom of choice.

Where statutory controls impose limits or norms on wage and price setters, TIPs would impose a set of rules within which firms and workers would be free to determine wages and prices. The rules would acknowledge the principle that moderation is in the self-interest of the wage and price setters and would likely include norms or guidelines for percentage increases in wages, prices, profit margins or some combination of these factors. The mechanisms could be taxes (the "stick" approach), subsidies (the "carrot" approach), or both. The taxes might be levied on firms through the corporate-profit tax or through a payroll or value-added tax; they might be levied on employees through the personal income tax or through a payroll tax. Whatever the rules, they would presumably apply only to the private sector. In the public and quasi-public sectors, the norms could be applied directly.

Both discrete and continuous TIPs have been proposed. A discrete TIP would apply the same penalty to all increases above the norm or the same reward to all increases below it. A continuous TIP need not have a specific norm; rather, it would provide a schedule of tax or subsidy rates that varied with the rate of wage or price increase. For example:

Observed Percentage Price Increase	Tax Rate on Corporate Profits
10	54
8	52
6	50
4	48
2	46
0	44
-2	42
-4	40

Combinations of discrete and continuous schedules are possible; for example, the policy could provide a schedule of tax rates for increases above a norm and a flat rate below it.

One often-cited TIP scheme would use the corporate income tax to stiffen firms' resistance to wage increases above a norm: the size of the penalty (the tax rate) would depend on the difference between the increase granted and the norm. TIPs which are more elaborate (and thus more costly to administer) would apply both to wages and to prices or profits. For example, employees who accepted wage increases within the guidelines might be granted a tax rebate, as might employers whose price increases or profit margins did not surpass a norm.

Fiscal neutrality (a net revenue of zero) would probably be a desirable feature of a TIP so that its purpose might be seen strictly as controlling inflation, rather than as raising revenues or providing a fiscal stimulus. The design could accomplish this goal by including both reward and penalty elements that approximately offset each other. Alternatively, a TIP providing a pure reward could be combined with an increase in the general tax rate to achieve fiscal neutrality.

The Advantages and Disadvantages of TIPs

In considering the choice between statutory controls and TIPs, the point that deserves most emphasis is the similarity in their underlying rationales and in the difficulties they face. Both systems are appropriately viewed as complementary to, rather than substitutes for, policies of demand restraint intended to wind down an inflationary spiral. Thus both face the difficulty that apparent early success may tempt a government to abandon or reduce the demand-restraint part of the package. Both involve similar administrative tasks: measuring wage and price changes and non-wage benefits, and monitoring compliance with the policy. Since neither is likely to cover all wages and prices in the economy, some of the inequities and inefficiencies associated with partial coverage are bound to occur. Finally, both should be

used infrequently and on a temporary basis to deal with serious inflationary pressures.

In contrast to the extensive experience with various forms of statutory controls, experience with TIPs is limited. A number of countries have seriously considered implementing such a policy, but only Hungary has actually done so. Studies indicate that its TIP has succeeded in restraining inflationary pressures, but the implications of the Hungarian experience for economies that are not centrally planned are not clear. Thus, there is some uncertainty in the matter of how effective a TIP would be in reducing inflation, and in the matter of which design features are most desirable.

Of course, Western industrialized nations have accumulated considerable experience with tax incentives of various kinds that is clearly useful in predicting the effectiveness of a TIP. Furthermore, despite extensive experience with statutory controls, uncertainty remains about the probable effectiveness of such programs.

Although the effects of a TIP are more problematical than those of statutory controls, some of the doubts about both have the same roots. As we have seen, an ideal incomes policy would scale down all wage and price increases proportionately, preserving relativity and ensuring that the policy would have no adverse effects on resource allocation. To design a TIP that would preserve relativity would be difficult even if wage and price setting were fully synchronized. Some TIPs, however, would be more likely to approximate this result than others. In particular, a continuous TIP would exert downward pressure at all points of the wage- and price-change distribution, although equal pressure at each point would be difficult to achieve. In our earlier illustration of a continuous TIP schedule, for example, a firm anywhere on the range of distribution could lower its tax rate by lowering its price increase.

Most proposed TIPs, however, are discrete, with a schedule of tax rates for increases above a norm and a lower rate for increases below the norm. Such a policy could not preserve the wage- or price-change distribution because it would exert no downward pressure on increases that, in the absence of the TIP, would have been below the norm.

If we compare the effects of a discrete TIP with those of direct controls, we see that both policies alter the distribution of wage and price changes: direct controls cut off the upper part of the distribution, and a TIP cuts out a segment from the middle. It is difficult to say which effect is more serious, since both distort relativity to some extent. The advantage of the TIP is that it does permit large increases, which allows wage and price setters to deal with serious shortages or inequities.

Although a continuous TIP should cause little distortion in the relative wage or price structure, it penalizes firms with higher wage or price changes even if they reduce their increases from what they would have been without the TIP, and subsidizes those whose increases would have been at the lower end of the distribution continuum. Both fairness and allocative efficiency, therefore, argue against a substantial penalty (that is, a steep tax schedule), which limits the potential effectiveness of the program.

As in the case of direct controls, a TIP that does not abrogate existing contracts can achieve only modest reductions in the inertia affecting wage inflation. One source of this inertia is the long-term and overlapping nature of wage contracts. Another is the slow response to anti-inflation policies of expectations of future inflation. Theoretically, a TIP could reduce these expectations, but the people involved in wage and price setting are likely to be quite uncertain about the effects of an untried program. They are unlikely to lower their expectations until there is some demonstration that the program is reducing inflation. This argument suggests that the effectiveness of a TIP would be somewhat less than that of direct controls.

Several supporters of a TIP claim that its administrative costs would be much lower than those of direct controls because the program could be accommodated within the bureaucracy that administers the tax system. Commissioners believe, however, that the costs of administering a TIP are likely to be very similar to those of administering direct controls. First, there is no reason to believe that the relationship between the number of firms covered and the effectiveness of the program would be different for the two policies. Therefore, the degree of coverage judged appropriate would be quite similar. Secondly, both programs would involve monitoring wage and price increases and assessing compliance with the guidelines laid down; these are not currently activities of the tax authorities. Thirdly, the most difficult and expensive parts of these activities, the valuation of non-wage benefits and the measurement of price increases, would be common to both programs. For these reasons, it appears likely that a TIP on wage and price increases in Canada would involve a bureaucracy similar in size and requirement of skills and knowledge to that of the Anti-Inflation Board of the 1970s.

The social and political costs of a TIP are the most difficult to assess, but they may also be the most important. For statutory controls, as we have seen, these costs are likely to involve a general reduction in goodwill and a co-operative spirit; harm to the collective bargaining system; increased animosity and distrust of government on the part of the private sector; the direction of the efforts and resources of business and labour away from collective bargaining and towards the political arena; and the possible increased acceptance of government intervention as a method of solving economic problems. Because of its "voluntary" nature, a TIP might involve lower costs in relation to these last elements than would statutory controls. Although it would complicate collective bargaining and decentralized wage and price setting, it would not displace these important institutional features of our market economy.

A potentially important offset, however, arises from the reliance of a TIP on the tax system. Many observers are concerned that the tax system is already too complex. They believe that it must be simplified and made more equitable if it is to retain the social acceptance so important to a system that relies, to a considerable extent, on voluntary compliance. Whether a TIP would further erode confidence in the system is not clear, but the risk should be kept in mind. From the perspective of the federal government, a TIP has a clear advantage over statutory controls in that it could be implemented in the private sector without invoking emergency powers.

Commissioners see little reason, then, to expect that a tax-based incomes policy would be more effective in reducing inflation than statutory wage and price controls. On the other hand, a TIP has some advantages in that it allows collective bargaining and wage and price setting to proceed, and thus interferes less with individual freedom and market forces.

Conclusions

On his 90th birthday, George Bernard Shaw was asked how he enjoyed old age. Shaw replied, "It's not bad when you consider the alternative." The issue of choosing the best policy for dealing with inflation and unemployment has to be approached in a similar fashion. Each of the incomes policies reviewed in this section, voluntary mechanisms, statutory wage and price controls, and tax-based incomes policies, has significant adverse aspects. We Commissioners have important reservations about all three. But to reduce inflation by demand restraint alone has, as we have recently been reminded, very substantial costs, many of which are borne by the weakest members of society. The most important conclusion of this section, therefore, is that there are sound reasons for carefully examining structural reforms that would facilitate the control of inflation and unemployment. In the absence of these structural reforms, governments will have to rely on fiscal and monetary restraint, possibly combined with periodic incomes policies, to counter inflationary pressures.

Commissioners have further concluded that incomes policies can help to reduce inflation provided that these policies are part of a larger package incorporating appropriate restraint in aggregate demand. Such a combination of policies can reduce the very substantial costs associated with the reduction of inflation through pure demand restraint; it might well be regarded as a more equitable way of spreading those costs across the entire population.

Living with inflation is not a viable option. The experience of the recent recession has again confirmed that it is possible to reduce inflation primarily by demand restraint, but only at high cost. Should a serious inflationary spiral again emerge, it would be desirable for business, labour and government to seek agreement on adopting voluntary norms for wage and price restraint. If such an agreement cannot be reached (as has been our past experience) consideration should be given to the temporary adoption of either statutory controls or a tax-based incomes policy.

Notes

1. Much of this section draws on a study prepared for this Commission by Craig Riddell, "Dealing with Inflation and Unemployment in Canada: Options and Their Consequences", in *Dealing with Inflation and Unemployment in Canada*, vol. 25 (Toronto: University of Toronto Press, 1985).
2. As opposed to policies that attempt to control or prevent price increases in particular sectors, such as rent controls.
3. L. Seidman, "A New Approach to the Control of Inflation", *Challenge* 19 (July/August 1976), p. 40.
4. U.S. President Jimmy Carter, October 25, 1978, televised address.

5. In this and other examples in this section, we assume a constant average velocity of circulation of money.
6. J. Vanderkamp, "Wage and Price Controls: Some Basic Macro Issues", in *Wage and Price Controls*, edited by Greg Mason (Winnipeg: University of Manitoba, Institute for Social and Economic Research, 1983).
7. Indeed, some analysts claim that a credible commitment by the central bank to reducing monetary growth will lead to substantial reduction in inflation without causing the pain of a recession. The argument is associated with the "rational expectations" position reviewed earlier; if citizens believe that the central bank is committed to a restrictive monetary policy, they will realize that inflation will fall; thus their inflationary expectations will decline, leading to a decline in actual inflation.
At the present time, this theory lacks substantial empirical support, although its proponents argue that the absence simply reflects the fact that the public has not viewed commitments to restrictive monetary policy as credible. Perhaps the experience of the 1981–82 recession, in which a restrictive monetary policy clearly results in a substantial reduction in inflation, will help the "rational expectations" mechanism to work better in the future.
8. This section draws on several studies carried out for this Commission. See Ken G. Waldie, "The Evolution of Labour-Government Consultation on Economic Policy", in *Labour-Management Co-operation in Canada*, vol. 15; and Leo Panitch, "The Tripartite Experience", William D. Coleman, "Canadian Business and the State", and Pierre Fournier, "Consultation in Canada: Case Studies and Perspectives", in *The State and Economic Interests*, vol. 32 (Toronto: University of Toronto Press, 1985).
9. Robert J. Flanagan, David W. Soskice, and Lloyd Ulman, *Unionism, Economic Stabilization, and Incomes Policies: European Experience* (Washington, D.C.: Brookings Institution, 1983), p. 4.
10. Panitch, "The Tripartite Experience".
11. Robert J. Davies, "The Structure of Collective Bargaining in Canada", in *Canadian Labour Relations*, vol. 16, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
12. Waldie, "The Evolution of Labour-Government Consultation on Economic Policy".
13. Theoretically, the federal government could also choose to live with inflation. However, as Commissioners argued earlier, this is not a true option because in the long run, the goals of stable prices and full employment cannot be traded off.
14. See, for example, David A. Wilton, "An Evaluation of Wage and Price Controls in Canada", *Canadian Public Policy* 10 (June 1984): 67–73. The experience of 1981 to 1983 suggests that these estimates many overstate the extent of unemployment likely to be associated with this degree of reduction in the pace of wage increases.
15. *Ibid.*
16. The division of powers under ss. 91 and 92 remains intact during an emergency, but the range of concurrent federal powers is enlarged; this means that parallel provincial laws are more likely to be found to be inoperative. Under the doctrine of paramountcy, where a provincial and a federal law conflict, the federal law is paramount.

Structural Changes in Wage Mechanisms¹

If inflation should begin to rise again, Canada's choice of economic policy options, in the absence of structural reforms, is not highly appealing, as the previous sections have made clear. Accordingly, this section examines certain structural changes in our system for determining wages that could lead to improvements in our economic performance, especially in price stability and levels of employment. Commissioners' concern here is with the long term, and not with the short- to medium-term problem of how to accelerate the current recovery from recession. In keeping with this long-run perspective, we focus largely on an economy that initially is assumed to be operating in the NAIRU range.

For conceptual purposes, it is helpful to divide potential reforms into two groups. The first comprises structural changes designed primarily to reduce fluctuations in output and employment resulting from economic shocks, and thus to enable the economy to be maintained close to the NAIRU and its natural level of output, without generating rising levels of costs and prices. Most of the structural changes considered in this section belong to this first group. The second set of reforms consists of those that would lower the NAIRU, and the most important of these are reforms to Unemployment Insurance. These UI reforms are considered in Part V of this Report.

It is important to recognize at the outset that these structural reforms would have costs as well as benefits, and that their effects cannot be predicted with complete certainty. To decide which reform, if any, should be implemented is not an easy task. To neglect that task, however, might be most unwise: George Bernard Shaw's dictum about the alternative must be kept in mind. The key question is: Which alternative is likely to yield the mix of costs and benefits most advantageous to Canadian society?

Earlier, we outlined "prisoners' dilemma" situations in which decentralized decision making by individual actors cannot achieve the outcome that is in the best interest of society as a whole. Several of the institutional reforms dealt with here would probably not be in the individual interests of particular consumers, employees or employers. For this reason, these reforms are not necessarily those that a decentralized market economy will adopt independently. Their implementation, therefore, may depend on government's taking the initiative.

Full Employment in the 1980s and Beyond

The consideration of potentially important structural changes is best begun by outlining the constraints that govern Canada's choices. This framework is necessary to an understanding of the effects of these changes, as well as to give some indication of those improvements in performance that can realistically be achieved. As we have seen, most economists now accept the proposition that in the long run, there is no trade-off between inflation and output or employment. The implication is that to accept somewhat higher inflation will not result in lower levels of other than temporary unemployment. In this sense, the NAIRU, the "non-accelerating inflation rate of

unemployment”, stands as a realistic definition of full employment. To aim to maintain the economy below the NAIRU would require continual increases in inflation. Thus, if we consider that the current NAIRU range of 6.5 to 8 per cent unemployment is unacceptably high in terms of economic hardship, wasted resources and social costs, we must adopt structural measures to reduce the NAIRU. If we accept this constraint, we can say that a full-employment goal is feasible, and that it is consistent with price stability.

At this point, it is worth recalling John Maynard Keynes’ dictum: “In the long run we are all dead.” To a considerable extent, what matters most for economic performance is the sequence of short periods during which the economy can, and typically does, deviate from full employment. The extent and duration of these deviations must be another concern of full-employment policy.

After the Second World War, the Western industrialized world gained confidence in the ability of governments to protect citizens from the vicissitudes of the business cycle by stabilizing output and employment. At least until 1980, the post-war period generally compares very favourably, by this standard, with the pre-war era. However, two points have emerged from our accumulated experience with Keynesian macro-economic policy. First, as we have seen, we lack the ability to fine-tune the economy by means of discretionary monetary and fiscal policy. It may be possible to avoid serious recessions, especially if inflation has been held in check, but the notion that governments can improve performance by attempting to smooth out cyclical fluctuations completely is open to serious question. Secondly, the commitment to using aggregate demand policy to prevent even minor downturns may well have imparted an inflationary bias to the economy. (This notion is part of the theory of secular inflation reviewed earlier.) One U.S. economist made these points in 1974:

The present inflation is rooted deep in the nature of the mixed economy . . . We live in the age after Keynes. Electorates all over the world have eaten of the fruit of the tree of modern economic knowledge and there is no going back to an earlier age. High employment or full employment is everywhere a goal insisted on by the electorate of all political persuasions. A half-century ago there was no comparable political sentiment effective against incurring prolonged depression or even stagnation; rather there was often a preoccupation with the perils of inflation, of budget and foreign trade deficits. This shift in populist attitudes of governments necessarily shifts the odds against stable prices (and of course against falling prices). No longer can one expect half of the peace-time years to experience falling prices. If general price levels rarely stand still and often rise then the secular trend of prices must be upward on the average.²

Recognition of these two points has turned economists’ attention from the use of stabilization policy for fine-tuning towards the structural characteristics of the economy that may contribute to the extent and length of deviations from full employment. This very useful change of focus has increased awareness of the fact that economies with different institutional characteristics differ in the extent of deviations from their normal levels of output and employment. This means that increased recognition of the limited ability of governments to

foresee economic shocks and offset them, in order to prevent cyclical fluctuations, as well as the possible inflationary consequences of doing so on a continuing basis, has given rise to the opinion that fiscal and monetary policies should be directed more towards longer-term goals. This proposition, in turn, implies that we should seek structural changes to bring the system to shorter and less severe deviations from full employment.

Change is the most pervasive feature of modern economic life; the economy is continually being affected by various disturbances, some of which are partially anticipated, while others are quite unexpected. The nature of the economy's reaction to these disturbances depends on its institutional features, as well as on other factors. Initial reactions to shocks can give rise to cumulative effects that result in cycles of overall economic activity. A change in aggregate demand, for instance, can be the result of any one of myriad circumstances: an increase in the quantity of money, increased expenditure on plant and equipment by firms, increased expenditure by consumers, or increased demand for our exports in foreign markets can provide a positive stimulus. Other circumstances can result in negative shocks. Thousands of positive and negative disturbances in aggregate demand occur weekly. Some of these disturbances cancel one another so that despite their importance for individual products, markets, firms and workers, they have no net effect on aggregate demand. In most instances, however, the net effect is not zero.

When a net increase or decrease occurs in aggregate demand, it partly affects wages and prices and partly affects output and employment. The result of a fall in aggregate demand of, say, 10 per cent may be a 10 per cent decline in output and a corresponding decline in employment with no change in prices; a 10 per cent fall-off in prices, with no change in output and employment; or some combination of the two. The extent to which the effect changes wages and prices (that is, has nominal effects) or output and employment (that is, has real effects) depends on a number of factors.

One of these factors is the position of the economy relative to its potential output or full employment. The effect on output and employment of an increase in aggregate demand is typically stronger if the economy is initially below potential output than if it is above potential output. A second factor is the extent to which participants in the market-place anticipate the change in aggregate demand. An important general proposition, though one that evokes considerable controversy, is that the more the public anticipates changes in aggregate demand, the less the effect those changes will have on output and employment, and the greater the effect they will have on wages and prices.

The relative time horizon also affects the division between real and nominal effects. Assuming that the economy is operating at the NAIRU, any permanent change in aggregate demand will, in the long run, alter wages and prices alone, but it may affect employment and output in the short run.

As we have mentioned, major supply shocks, such as the increases in energy or food prices that occurred in the 1970s, can also cause output and employment to deviate from their usual levels. These shocks are particularly troublesome in that they tend to raise prices and to reduce output and employment; that is, they can lead to stagflation. In addition, they may require a downward adjustment in real wages to maintain full employment.

The proposition that greater wage and price flexibility would lead to greater stability in employment and output has a long history. It is clearly valid where there is a change in demand in a single market, but, as Keynes noted, the effects on aggregate demand must be taken into account. If wage reductions made in response to a decline in aggregate demand lead to a further decline in aggregate demand, they may make employment and output less, rather than more, stable.

This is a complex issue, and it is not possible to explore it in detail here. We do note, however, that modern Keynesian and monetarist economists alike hold that greater wage and price flexibility would contribute to greater stability in employment and output, given stable monetary and fiscal policies. In addition, more flexible wages and prices would clearly reduce the costs of fighting inflation by demand-management policies. They would also weaken the case for using statutory wage and price controls or tax-based incomes policies to deal with inflationary pressures.

Reform of Wage- and Price-Setting Arrangements

The response to demand and supply shocks depends to an important extent, on the manner in which the economy determines wages and prices. We turn, therefore, to a consideration of the influence of existing institutional mechanisms on the setting of wages and prices.

One of the most important institutional arrangements affecting the economies of Canada and the United States is the system of collective bargaining between unions and management. Among its important implications for wages and prices is the considerable rigidity or inertia it creates in both. The result of this rigidity is that the short-run effect of changes in aggregate demand falls primarily on output and employment, rather than on wages and prices. Wide and lengthy deviations from full employment, therefore, can and often do occur. If we effected structural changes that made wages and prices more responsive to demand, we could achieve greater stability in employment and output.

The inertia in wages and prices and its implications for employment have not gone unnoticed by policy makers. In his annual report for 1982, the Governor of the Bank of Canada raised the issue:

Our economic system has exhibited stubborn resistance to a reduction in the rate of cost and price inflation. Why has the resistance been so stubborn?

Let me say first of all that I doubt that anybody is able to give a definitive answer to this question. It involves an aspect of the functioning of Canadian society that has received far too little consideration . . . I think it likely that a thorough examination of the question would point to policy initiatives of one kind and another that would improve appreciably the prospects for employment and output in Canada.³

Recent research by macro-economists identifies several features of North American wage contracts as an important source of inertia in costs and prices. Union contracts in Canada and the United States often run for two to three years. They typically specify the wage rates to be paid throughout their

term; thus these wages are not contingent on the economic conditions prevailing at the time the wage is paid. The main exception is cost-of-living/adjustment provisions, which make wage levels contingent on only one dimension of economic conditions, that is, the increase in the Consumer Price Index. In addition, collective bargaining agreements overlap one another; in an average year, about half of all settlements are renegotiated, with only a modicum of seasonality in the bargaining calendar.

In brief, we are interested here in three components of collective bargaining in North America:

- The overlapping of contracts
- Predetermined duration of contracts, which is often considerable
- Predetermined or non-contingent wages.

For a number of reasons, these features are believed to be an important source of persistence in wages and prices.

First, an obvious factor in the sluggish response of the average wage to changes in economic conditions is that only some wages are reset in each contract period. The observed change in the average wage is affected, not only by new settlements reached during the period and by increases under cost-of-living/allowance (COLA) provisions, but also by the proportion of wages that do not change and by implementation of deferred increases as provided for under existing contracts. (The size of the deferred increases was determined earlier, when the relevant contracts were negotiated.)

The second obvious way in which these institutional features cause wage rigidity results from the long-term nature of contracts. The economic conditions prevailing at the time of negotiations have considerable influence because they can shift relative bargaining power by affecting the cost of a strike or lock-out to the firm and to the workers. However, negotiators also look to the conditions that they expect will prevail during the term of the contract. Thus changes in current economic conditions, especially those that are regarded as temporary rather than permanent, exert less influence on long contracts than on short contracts.

The third and most subtle, but possibly also most important, reason that these institutional features appear to be a major source of inertia consists of the interaction between the overlapping of union contracts that cover different workers in similar or related industries or occupations and the importance attached by firms and their employees to relative levels of compensation. In setting wages, firms and workers take into account the compensation levels prevailing and expected to prevail in similar industries and occupations. This process implies looking both backwards at wages set previously and forward to negotiations that will occur during the course of the group's present contract. It tends to produce considerable persistence in the pattern of wage settlements, which, in turn, significantly affects the level of employment and output. If recent wage increases have been running at, say, 10 per cent, and a decline in demand occurs, it will be difficult, at least initially, for firms to persuade union leaders and workers that substantially reduced settlements are now in order. As a result, much of the decline in aggregate demand will be met by reductions in output and employment.

The fourth source of inertia is the fact that contracts both extend for a predetermined period and provide for rates of compensation that are not contingent on all relevant economic factors. Whatever negotiators' expectations about the future, they almost always prove incorrect to some extent. Yet a contract with a predetermined duration and pre-set wage rates means that any adjustment for unanticipated economic conditions must normally be postponed until it runs its course.⁴ Empirical evidence indicates that this lag makes "catch up" important in many subsequent contract negotiations.

The problem of unanticipated economic conditions can, of course, work both ways. Many wage contracts signed in the late 1960s and early 1970s clearly failed to anticipate subsequent large increases in inflation. Thus, real wages were lower than anticipated, and employees were dissatisfied. The opposite occurred in the early 1980s: contracts negotiated just before the beginning of the recession anticipated both a higher level of inflation and stronger economic activity than actually occurred. Employers were squeezed as they paid higher real wages and faced weaker market conditions than they had expected.

These two cases point to one of the disadvantages of a long-term, fixed-wage contract. The terms agreed to at the time a contract is negotiated may turn out to be inappropriate to the economic conditions over the life of the contract. The negotiation of subsequent contracts must then provide adjustments. As a consequence, the process of adjustment to the original change in economic circumstances is spread over time.

The foregoing considerations indicate that long-term overlapping contracts cause the short-run effect of changes in aggregate demand to fall primarily on output and employment, rather than on wages and prices. Empirical evidence also supports this view, as illustrated by differences in wage-setting institutions in industrialized nations. Canada and the United States are unique in their reliance on long-term overlapping contracts. Japan and several European countries make use either of shorter contracts or of more closely synchronized bargaining; labour relations in the United Kingdom are characterized by short contracts without a predetermined expiry date and by non-synchronized negotiations. If long-term overlapping contracts are an important source of inertia, the response of wages and prices to aggregate demand should be more sluggish in North America than in Europe and Japan. Furthermore, if sluggish wage adjustment results in greater variation in output and employment, these real variables should deviate more from their trend or normal levels in North America. Similarly, if synchronization is important, Japan and the United Kingdom should show significant differences in degree of responsiveness of wages, prices, output and employment.

The general conclusions of several cross-country comparisons confirm these expectations. Nominal wages display substantially less variability in the United States than they do in either Britain or Japan, while output and employment display substantially more variability. In Canada, where the degree of wage inertia resembles that of the United States, the variability of output and employment is more like that of the United States than it is like

that of Japan or the United Kingdom. Japan, with its short contracts and synchronized negotiations, displays the greatest variability in nominal wages relative to the variability in employment and hours worked.⁵

That North America's long-term contracts are a post-war phenomenon suggests that analysis of the historical record might also cast light on the relationship between wage flexibility and economic performance.⁶ The empirical evidence tends to confirm the suggestion of many observers that wages and prices have become less responsive to variations in aggregate demand during the past 40 years. The most striking study is that of a U.S. economist who finds that wage and employment variability in the United States before the Second World War was similar to that of Japan and the United Kingdom. Only in the post-war period did the United States display less variability in wages and greater variability in employment and hours worked.⁷

Other cultural or institutional differences among countries appear to account for some of the observed differences in wage, price, output and employment variability. As we have previously noted, several European countries have more centralized bargaining structures than Canada and put greater reliance on voluntary incomes policies. In Japan, an important factor is the substantial use of bonus payments. Nonetheless, the evidence suggests that long-term, overlapping, wage contracts are an important factor in creating wage and price rigidity.

Additional evidence comes from macro-economic models. Simulations carried out in 1982 showed that a policy of shortening contract lengths was significantly more effective in lessening the unemployment costs of reducing inflation than either statutory wage and price controls or a tax-based incomes policy.⁸ In a study carried out for this Commission, two different econometric models indicated that in general, greater wage and price flexibility would reduce the deviations from equilibrium levels of output and employment caused by a change in aggregate demand.⁹

Thus, the analysis suggests that we could use shorter wage contracts and/or synchronized negotiations to decrease the inertia in our wages and prices, and to permit greater stability in employment for the future. Of course, such a change would also reduce stability in nominal wages and prices. This is the nature of the trade-off that we face in a world in which the economy is often hit by disturbances that governments, central banks and the public can anticipate only very imperfectly.

Should these structural changes be made? Let us examine a number of factors that need to be taken into account in attempting to reach a judgement. First, as already noted, decreasing contract duration and synchronizing negotiations would have symmetrical effects: they would make inflation-reducing measures less painful in terms of unemployment, but they would also make the economy more prone to rapid increases in wages and prices. Our view is that the symmetrical nature of these changes is not a strong argument against them. Indeed, their adoption would make more quickly apparent the consequences of overly expansionary policies. An unfortunate consequence of the existing institutional arrangements is that the short-term

costs of such policies are deceptively low and so create a temptation that the economy would be better off without.

This point deserves some elaboration. With the output of the economy initially at its potential, the first result of a rise in aggregate demand—especially an unanticipated rise—would primarily be increases in output and employment. Since the inflationary consequences would be small at this point, a government might be tempted to pursue such a policy, especially as an election approaches. However, the gradual overheating of the economy sets in motion forces that tend to raise wages and prices and to lower output and employment. The stronger state of product and labour markets leads to some initial increases in prices and earnings, which then feed into higher wages, either directly through COLA clauses or indirectly as “catch-up” pressures affect new settlements. The higher wages, in turn, raise the costs of production, causing further price increases. The seeds of an inflationary spiral have now been sown.

Shorter wage contracts and/or synchronized negotiations would make wages and prices respond more quickly to a situation of excess demand, thus signalling more rapidly the inflationary implications. As a consequence, the costs of excess demand would be obvious sooner. Policy makers would be supported by tangible evidence as to why restraint measures were required. Structural changes in wage settlements, then, could help to arrest inflation more quickly than it could otherwise be halted. Thus the fact that the proposed structural changes would make the economy more prone to increases in wages and prices does not constitute an argument against their adoption.

Before we seriously consider changing these institutional arrangements, however, we need to ask why labour-market participants continue to choose overlapping fixed-wage contracts. Obviously, these institutional arrangements reflect firms' and unions' preferences; otherwise they would choose an alternative. One obvious reason is a desire to economize on the costs of negotiations. From 1967 to 1981, negotiations in all Canadian industries lasted an average of six to ten months.¹⁰ Although negotiating periods would undoubtedly be reduced if contract periods were shorter, these data do suggest that the direct costs of negotiations may be large, and that contracts covering a period shorter than one year are not likely to be feasible.

Another explanation for the wide use of long-term contracts is that they constitute a method of avoiding or reducing industrial disputes. Canadian labour laws prohibit strikes and lock-outs during the term of a collective agreement, and since the expiry date of the contract is known, the firm and its customers can take such action as inventory accumulation, to minimize the potential costs of a strike; with shorter contracts, negotiations would occur more frequently. The probable effects on collective bargaining disputes need to be considered. Recent evidence indicates, however, that the probability of a strike's occurring varies directly with the length of the previous agreement.¹¹ Thus, to shorten contracts would reduce the probability of a strike's occurring in any set of negotiations, although it would increase the number of negotiations. Employers also seem to prefer long-term wage contracts to assist

their planning and to facilitate use of the marketing advantages of security of supply.

Thus, overlapping multi-year agreements seem to have become an enduring feature of North American labour markets. In using them for wage-setting, however, individual firms fail to take into account the social costs of the wage and price inertia they generate. That is, in negotiating a long-term, fixed-wage contract, the two parties do not take into account the costs imposed on society as a whole through macro-economic instability in employment and output. Furthermore, no single firm or union has any incentive to deviate from this type of contract. To do so would neither help the individual parties nor contribute much to aggregate employment stability. Improving employment stability would require a co-ordinated change by a significant number of firms and unions.

What we have here is another prisoners' dilemma: a co-ordinated change could make all parties better off, but individual parties cannot achieve the same result independently. This suggests that there is a public policy case for altering the institutional arrangements. To make the case convincing, however, it must be shown that the change would decrease the costs to society as a whole, without substantially decreasing benefits to the parties involved in wage and price determination. This seems to be the situation. Although the private benefits of long-term contracts are not small, including as they do such items as reduction in the costs of negotiation, avoidance of disputes, and contributions to long-term planning and security of supply, they must be compared to the costs imposed by wage and price inertia, which are clearly large.

Thus there seems to be a case for public policy to encourage shorter contracts or possibly more closely synchronized wage negotiations. An intermediate possibility is a flexible wage provision within the context of a long-term contract. The entire contract need not be renegotiated each time wages are discussed. Rather, employers and employees could negotiate long-term contracts on working conditions, non-wage benefits, and other particulars, but negotiate wages more frequently.

Wage Indexation and Gain Sharing

That wage rates are predetermined in most collective agreements suggests another way to reduce wage and price inertia: make wages or earnings contingent on realized economic conditions, rather than set them in advance. Two kinds of contingent-compensation systems can serve. In wage indexation, employees are paid an hourly wage, the size of which is contingent on some measure of realized economic conditions. In a "gain-sharing" or "shared-compensation" system, employees receive a share of the profits or revenue of the firm. As we shall see below, the latter is a more fundamental reform.

Wage Indexation

The most common form of wage indexation is the COLA clause, which links wages to changes in the cost of living. Much less common are schemes that

index wages to variables related to the employer's ability to pay: the wages of gold miners, for instance, might be related to the price of gold or those of steel workers to the price of steel.

Wage indexation is one way of dealing with uncertainty. Uncertainty about future economic conditions means that both employers and employees face risks. Wages set in advance will turn out to be too high for some economic conditions and too low for others. If both employers and employees observe economic conditions that they agree are relevant, both parties can gain from making wages contingent on realized outcomes. Thus a wage-indexation system has potential benefits.

Offsetting these benefits are the additional costs of negotiating, writing up, and enforcing an indexing arrangement. Although these costs may not be trivial, especially for the first such arrangement, they do not appear to form a serious obstacle. A more serious difficulty seems to be finding observable variables that are closely related to the conditions relevant to the firm and its workers. There are two problems here. One is the inevitability of imperfect information: neither party will have complete information about all the relevant economic conditions. Thus, the wage cannot be made fully contingent on realized conditions. The parties are restricted to a second-best arrangement in which the wages are made contingent on some specified variables. This clearly reduces the potential benefits of an indexed system. Another frequent problem is asymmetrical information: one party has better information than the other about some key aspects of the relevant conditions. Typically, the firm has superior information about demand-side or "ability-to-pay" variables, such as revenues, profits, output or labour productivity. The more widespread use of wage-contingency schemes would require more sharing of information among employers and employees and their representatives than currently takes place.

Increased risk for workers might constitute another cost. Certainly workers dislike the risks associated with an uncertain income. However, flexible compensation is not inherently more risky for all workers. Fixed-wage contracts also involve income risks in that employers may use temporary lay-offs in response to fluctuations in demand. Whether contingent-wage/compensation schemes are more or less risky than fixed-wage systems depends on how much the former reduce the risk of lay-offs: that is, to what degree these schemes affect the variability of employment.

Empirical evidence supports the view that more flexible wage-payments systems imply a lower risk of lay-offs. The evidence of cross-country comparisons has already been cited. Additional evidence comes from comparing temporary lay-offs and wages in unionized firms, where fixed-wage contracts are common, with the same conditions in non-union firms, which can, and often do, adjust wages upward and downward to reflect changes in the state of the economy. Studies confirm that unionized companies rely more on temporary lay-offs to respond to fluctuations in demand than do non-union companies.¹²

Flexible systems do, however, change the distribution of risk among workers. In any given firm, workers are not affected equally by the risk of lay-off. Unionized firms and, to a lesser extent, non-union firms usually make

lay-offs in reverse order of seniority. Thus, under a fixed-wage system, the risk of lay-off is very low for the majority of workers, except during an unusually severe recession. The risk is high, however, during even moderate downturns in economic activity, for workers at the bottom of the seniority ladder. To change to a more flexible wage-compensation system would result in a somewhat higher risk of income fluctuations for the majority of workers, but in substantially reduced risk for those with little seniority.

Gain Sharing

Compared to wage indexation, gain sharing, or shared compensation, has considerably stronger tendencies to stabilize employment and output in response to economic shocks. Such a system can operate in two general ways. One is to negotiate or otherwise determine a sharing formula in advance. The most obvious base for making this determination is revenue (or profits) per employee: the parties would agree ahead of time that each employee would receive, say, two-thirds of the revenue per employee and the employer would receive the remainder. The second method is to determine the shares after the fact. This second system is used in Japan, where bonus payments are negotiated semi-annually for most regular industrial workers. The bonus is not related to profits or revenue by an explicit formula, but it does vary somewhat with the company's market performance. Either system is likely to involve a fixed salary or wage, with the share or bonus as a supplement. In Japan, the bonus component of income is substantial, averaging more than one-quarter of a worker's total earnings.¹³

The author of a recent book argues that an economy in which a share-compensation system is widely used will exhibit a strong tendency to maintain full employment of labour.¹⁴ He sees a fundamental difference between an economy in which workers are paid a fixed hourly wage and one in which they are paid a share of revenue or profit. In the wage economy, the labour market is in equilibrium when the demand for labour equals the supply of labour. In the share economy, on the other hand, there is always unsatisfied demand, in the form of unfilled vacancies, at the prevailing negotiated shares. This excess demand for labour acts as a cushion, protecting the economy from significant deviations from full employment. Any reduction in labour demand will be offset by the existence of unfilled vacancies. The reason for this important difference between compensation systems is that with share compensation, a firm can reduce unit-labour costs and increase profits by expanding employment and output to any degree desired. With the wage system, the firm will expand employment only to the point at which the additional revenue generated by the extra workers equals the additional cost represented by their wages.

The main empirical evidence supporting the view that widespread use of a share-payments system will stabilize employment and output comes from post-war Japan. Japan weathered the economic contractions of 1954, 1957–58, 1962, 1965, 1971, 1974–75, and 1981–83 with relatively little change in registered unemployment. Of course, it would be a mistake to attribute this remarkable performance to the use of the bonus system alone. Japan's annual

synchronized bargaining, as we have already noted, contributes to stability in employment and output. In addition, the country has a large number of workers who move out of the labour force whenever the economy turns down, and who therefore do not show up in normal measures of unemployment. Nevertheless, analysis of the Japanese experience lends support to the proposition that a share-payments system can make a positive contribution to a country's economy. Like Japan's other key wage-setting institutions, substantial bonus payments were adopted in the post-war era. Before that time, the Japanese economy suffered substantial fluctuations in employment and output.

The Case for Contingent Compensation

Given the potential benefits of contingent-compensation arrangements, why are they not more common? One answer may be that the transactions and monitoring costs that arise from imperfect and asymmetric information are simply too large to make worthwhile indexation to variables other than the CPI. This answer presumes that the people involved in wage determination have assessed gain-sharing or wage-indexation schemes and decided that the expected costs exceed the expected benefits.

Nonetheless, there is a case for policy intervention to promote gain-sharing arrangements. Like the case for shorter contracts and synchronized negotiations, it rests on the macro-economic benefits to Canadian society of greater employment stability. The multiplier effects associated with business cycles mean that lay-offs in one industry reduce total output demand and, consequently, employment in other industries. Yet individual firms and unions do not take these macro-economic effects fully into account in making choices about wage setting. The situation is another prisoners' dilemma in which co-ordinated change could benefit society as a whole.

In addition, the move to widespread use of fixed-wage contracts may have been partly based on the assumption, common in the 1950s and 1960s, that governments could substantially reduce cyclical fluctuations through discretionary use of monetary and fiscal policy and through built-in stabilizers. We now recognize, however, that our ability to anticipate and offset economic shocks is much more limited. The experience of the recent recession may well encourage firms and unions to reconsider wage-setting arrangements. Despite evidence that labour-market participants are in the process of re-examining compensation schemes, significant change has yet to occur in Canada. If substantially more widespread use of gain-sharing arrangements is considered desirable for society, it seems likely that some form of government intervention will be required.

A final point should be emphasized about the function of public policy in promoting flexible payments systems. Commissioners assume that such a policy would be intended to be neutral for the *average* compensation level: that is, it would make compensation more responsive to changes in economic conditions that affect particular firms and industries, but on average, over time, wages under the new system would be neither lower nor higher than they would be under the existing system.

Conclusions

In this section Commissioners have reviewed four options for increasing stability in employment and output in Canada: shorter contracts, synchronized wage setting, indexation of wages, and gain sharing. Each would lead to increased flexibility and variability in wages and prices. They would not, however, necessarily cause real wages to be any more variable overall.

As we stated at the outset, we cannot make precise predictions about the effects of these reforms, which are currently the subject of considerable research and debate. Of the changes described, gain-sharing/compensation arrangements seem likely to yield the best mix of benefits and costs. A further, and not entirely unrelated, advantage is that contingent-compensation reform would probably be the easiest to implement. To achieve synchronized wage negotiations or uniformly shorter contracts would require federal-provincial agreement on the wisdom of these reforms. Moreover, it would involve governments' imposing these changes on the private sector, which is a consequence Commissioners would prefer to see avoided.

The federal government alone could bring about greater use of gain sharing by offering employees more favourable tax treatment of earnings they receive in the form of a share of profits or revenue.¹⁵ Such a scheme should not favour any particular form of gain sharing, such as profit sharing, but rather, should provide equal incentives for a variety of flexible wage-payments systems. Nor would any compulsion be applied. Employers and employees who prefer not to take advantage of the more favourable tax treatment accorded this type of income should be free to make this choice, just as individuals are now free not to take advantage of the more favourable tax treatment given to income from capital gains.

A serious obstacle to the more widespread use of gain sharing, especially for employees of firms that are privately owned, is the inadequate exchange of relevant information between employers and employees. However, as we point out in Part V of this Report, Commissioners consider a more open exchange of information a key element for improving labour/management relations and reducing the incidence of strikes and lock-outs.

Notes

1. This section draws on a study carried out for this Commission by Craig Riddell, "Dealing with Inflation and Unemployment in Canada: Options and Their Consequences", in *Dealing with Inflation and Unemployment in Canada*, vol. 25 (Toronto: University of Toronto Press, 1985).
2. From the writings of the Massachusetts Institute of Technology's Paul Samuelson.
3. Bank of Canada, *Annual Report of the Governor to the Minister of Finance* (Ottawa: The Bank, 1982), p. 10.
4. It is noteworthy, however, that during the recent recession, a number of contracts were re-opened with the consent of union members, and compensation was adjusted downward as a means of enhancing job security.
5. See Robert J. Gordon, "Why U.S. Wage and Employment Behaviour Differs from That in Britain and Japan", *Economic Journal* 92 (March 1982): 13-44; and W. Craig Riddell, "The Responsiveness of Wage Settlements in Canada and Economic Policy", *Canadian Public Policy* 9 (March 1983): 9-23.

6. The pioneering multi-year settlement was the 1948 agreement between General Motors and the United Auto Workers. In Canada, one-year contracts were widely used until the late 1950s; the move to two- and three-year agreements took place between 1956 and 1959 in manufacturing, the sector in which multi-year agreements remain more popular than elsewhere. For the economy as a whole, the move towards multi-year contracts took place gradually throughout the late 1950s and early 1960s.
7. See Gordon, "Why U.S. Wage and Employment Behaviour Differs from That in Britain and Japan". See also Robert J. Gordon, "A Century of Evidence on Wage and Price Stickiness in the United States, the United Kingdom, and Japan", in *Macroeconomics, Prices and Quantities: Essays in Memory of Arthur M. Okun*, edited by James Tobin (Washington, D.C.: Brookings Institution, 1983).
8. William M. Scarth, "An Evaluation of Tax-Based Incomes Policies", in *Tax-Based Incomes Policies: A Cure for Inflation?*, edited by Michael Walker (Vancouver: Fraser Institute, 1982).
9. Brian O'Reilly, W.R. White, and Robert Ford, "Price Flexibility and Business Cycle Fluctuations in Canada: A Survey", in *Post-War Macroeconomic Developments*, vol. 20 (Toronto: University of Toronto Press, 1985).
10. Canada, Labour Canada, *Major Wage Settlements* (Ottawa: The Department, various years).
11. Jean-Michel Cousineau and Robert Lacroix, "Why Does Strike Activity Vary over Time and Between Industries?" (Montreal: Université de Montréal, Département des sciences économiques, 1983). The relationship between contract length and strike activity is treated further, later in this Report.
12. James L. Medoff, "Layoffs and Alternatives under Trade Unions in United States Manufacturing", *American Economic Review* 69 (June 1979): 380-95.
13. Although we are concerned primarily with the implications of gain sharing for employment stability, it is worth noting that many observers recommend such a system as a method of improving employee morale and productivity. Some analysts also view gain sharing as an important part of a package for the development of a labour-relations environment that involves increased co-operation and consultation. These aspects are considered in Chapter 17.
14. Martin L. Weitzman, *The Share Economy: Conquering Stagflation* (Cambridge, Mass: Harvard University Press, 1984).
15. The February 1984 budget proposed a measure along these lines, but it no longer appears to be under active consideration.

The Challenge to Expedite the Reduction of Unemployment

Before we turn to our main conclusions and recommendations on the broad range of issues of economic growth, employment and economic stability that we have been examining, we should consider further the critical short- to medium-term challenge confronting Canada: How are we to improve this country's prospects of achieving substantially lower levels of unemployment over the next several years, without putting at risk the progress Canadians have already made in reducing inflation? In other words, how can we expeditiously reduce unemployment to the present NAIRU range? (The longer-run challenge of reducing the NAIRU itself is taken up again in Part V of this Report.)

In our examination of macro-economic policy, we Commissioners have indicated our conviction that as one means of furthering this shorter-term objective, the government should change the mix of monetary and fiscal policy. It should take fiscal measures to reduce the deficit, and simultaneously, if temporarily, increase monetary expansion enough to more than offset the effect of fiscal restraint on aggregate demand. Such a combination of moves would raise the prospective growth of output. This development, in turn, should contribute to a reduction in unemployment that is more certain and decisive than that currently anticipated, while achieving the reduction in the deficit that is necessary to provide room for stronger growth of capital investment and output in the private sector.

We would be fortunate, however, if this approach, taken by itself, resulted in reducing unemployment by as much as one percentage point a year, starting in 1986, a pace that would not take us to the NAIRU range until 1989 or 1990. Yet to use monetary and fiscal policy to push the reduction in unemployment much faster would be to put at risk our progress in reducing inflation; bottlenecks could develop during rapid expansion, and overactive policy could adversely affect confidence and, thus, the exchange rate, interest rates, and wage and price behaviour.

Commissioners believe that the challenge is not just to the federal government and the Bank of Canada. The onus is on all participants in Canada's economy—in particular on business and labour, as well as government—to follow courses that will maximize the extent to which growth in aggregate demand is translated into growth in output and employment, and to minimize the extent to which the former slows the pace of reducing inflation.

Earlier in this chapter, Commissioners rejected the idea of establishing a permanent incomes policy in Canada. We also noted the potentially adverse effects of adopting a temporary incomes policy. At the same time, however, we concluded that the benefits of such a policy could outweigh its costs, particularly when it is used to reinforce fiscal and monetary measures aimed at checking inflation. In the absence of such a complementary measure, as Canadians have learned from recent harsh experience, fiscal and monetary policy alone may succeed in controlling inflation only at high cost in terms of lost output and employment.

The situation that now confronts Canada is somewhat different from that in which adoption of a temporary incomes policy is ordinarily contemplated. At the moment, inflation appears to be reasonably well under control. Given, however, the extraordinary challenge that confronts us as a nation to do everything possible to reduce unemployment from its present unacceptable level as quickly as may be practical, Commissioners believe that a temporary incomes policy should be instituted to reinforce the downward trend in inflation and so make possible a temporary acceleration in the rate of economic growth, with minimal risk of renewed inflation. With such an incomes policy in place and with a change in the monetary-fiscal mix of the type already outlined, we believe that it would be feasible to accelerate the average reduction in unemployment as much as two percentage points annually, in order to achieve the NAIRU level by about 1988. Although Commissioners are well aware of the costs and inconvenience of employing an incomes policy, the institution of such a policy for a period of, say, three years or so would, in our judgement, be a small price to pay for the major social and economic benefits Canada would reap from a faster reduction in unemployment.

Commissioners' overwhelming preference is for a voluntary incomes policy based on agreement among the principal players, about guidelines for wages and prices (or profit margins) consistent with further reduction in inflation. We recognize, however, that it might well prove difficult—as it has in the past—to arrive at an effective agreement under which all major groups would voluntarily bind themselves to abide by guidelines. The prospects may be better for achieving consensus in support of mandatory guidelines introduced by federal and provincial governments.

Commissioners believe that governments, as well as implementing a temporary incomes policy, should act to reinforce the prospects for relatively strong growth in demand. Specifically, we advocate that federal, provincial and municipal governments move forward on the basis of at least some informal co-ordination, and, if possible, increase the capital expenditures they have planned for the rest of the decade, especially those expenditures that could contribute directly to creating jobs and improving the economic infrastructure.

Policy makers might be disturbed by the effects on the deficit of this temporary increase in capital expenditures, although economists draw important distinctions between capital and current expenditures in assessing the suitability of any given deficit level. If policy makers judge it desirable to offset some or all of these effects, Commissioners would support the introduction of a temporary income-tax surcharge. We also recommend a review of tax expenditures as a further possible means of increasing revenues. Reductions in inflation subsequent to the introduction of some measures may have obviated the rationale for implementing them: the \$1000 investment-income deduction, the \$1000 pension-income deduction, and the Registered Home Ownership Savings Plan deduction are obvious examples.

Commissioners are convinced that it is eminently worthwhile and clearly in the best interest of all the groups concerned to work openly, co-operatively, and in a spirit of substantial willingness to ask and grant concessions, in order

to meet the challenge of reducing the unemployment rate by two percentage points a year from now until 1988, without undercutting our gains against inflation.

Conclusions and Recommendations

General

Canada's growth and employment prospects depend heavily on developments in trade and in the use of our human and natural resources. Regional development policy and the institutional framework of our federal form of government also affect our growth and employment prospects. Part III of this Report addresses other components that affect these prospects: the role of capital, technology and management; the choice of industrial policy; the demand management or setting of monetary and fiscal policies; and the flexibility of wages and prices in responding to the vagaries of the business cycle. While the following recommendations are addressed separately, their strength depends significantly on their integration with the recommendations in the rest of this Report.

Governments must be prepared to vary their role in the allocation of human, capital and natural resources in response to changes in external and domestic pressures. In general, however, governments should endeavour to facilitate the operation of the market mechanisms of our economy, rather than to seek occasions for further intervention.

■ In the management of the economy, governments must acknowledge the considerable international and domestic constraints on policy. They cannot provide quick solutions to every economic difficulty. Rather, they should set the medium- and long-term framework within which solutions can be worked out.

Although economic growth is a key means of increasing the welfare of all members of society, Commissioners do not advocate the pursuit of maximum growth at all costs. The claims of growth must be balanced against those of equitable income distribution, employment security and environmental quality. □

Recent Performance and Prospects

Canada's post-Second World War performance was strong until 1973; after that date, inflation began to climb rapidly, and productivity growth declined. Since the 1981-82 recession, unemployment has been our most serious policy concern.

This Commission has examined four independent projections of Canada's likely economic performance in the absence of major policy changes. These forecasts suggest that Canada's growth rate in real gross national product over the next two decades will closely parallel the U.S. rate. Annual real growth in Canada should average 3 per cent during the late 1980s, and decline to about 2.5 per cent during the 1990s, in keeping with a decline in the rate of labour-force growth. The growth prospects for natural resource-based production seem weak, especially in mining and forestry.

■ Most analysts predict that unemployment will remain at relatively high levels in Canada throughout the 1980s. Current

high rates of unemployment are associated with insufficient total real demand relative to total supply. In addition to this critical problem, there are major structural problems which, unless addressed, will not allow unemployment to drop below 6.5 to 8 per cent over the long term. This level is unacceptable by this Commission's standards, and the problem of reducing the structural unemployment rate must be addressed. □

Employment growth and productivity growth are essentially independent. Growth in the labour force is the principal cause of employment growth. Productivity growth increases both the supply of output and real demand to roughly equivalent degrees. Thus, growth and employment goals are not in substantial conflict over the longer run. We can improve productivity without harming long-run employment growth; more generally, technological unemployment is unlikely to become a major problem. Rather, increased productivity and technological change are the key to longer-term growth in real income and economic welfare.

Some fields have experienced an increase in the rate of technological innovation over the past two decades, but the overall rate is difficult to estimate. The decline in productivity growth since 1973 might suggest a decline in the pace of technological innovation. However, the recent increase in the share of gross national expenditure spent on research and development (R&D) in the United States and Canada will raise the pace of technical change and contribute to a recovery in productivity growth.

Industrial Policy

Canada's industrial policy has shifted since 1945, emphasizing, in turn, nationalistic goals or trade liberalization, development of the manufacturing sector or development based on natural-resource wealth.

Industrial policy in Canada incorporates a wide range of policy instruments, some of which have purposes related to trade or to general economic policy. Neither the federal government nor the provinces have blueprints for industrial policy. This omission reflects a fundamental reliance on market forces and private-sector enterprise as the engine of growth.

Commissioners' review of foreign industrial policy indicates that policies that work in some countries may not work in others. Despite Japan's low expenditure on R&D, that country has been successful in the knowledge-intensive industries. France and Germany have very different industrial policies, despite being members of the European Community. France has a highly targeted interventionist approach, while Germany's approach is more market oriented. There would seem to be no particular mix of industrial policy instruments that ensures success.

Canadians differ on the proper role of government in promoting economic growth and employment. The polar extremes of a strictly hands-off approach and a highly interventionist, targeted, industrial policy appear to overlook the complexities of policy formation and practice.

■ Relative to current practice, Commissioners favour a more market-oriented industrial policy. More particularly, we favour letting the market work and placing less emphasis on government intervention to protect declining industries. We have reviewed the possibility of a more specifically targeted approach – the strategy of “picking winners” – but we believe it unlikely that such a highly interventionist approach would meet with greater success overall than would a more neutral policy.

For several reasons, some modes of intervention make sense; hence Commissioners do not favour a strictly hands-off approach. Furthermore, while there is little evidence in Canada or abroad that a targeted industrial policy is more effective than a market-oriented approach, other countries will continue to experiment. Canada should monitor these experiments carefully and consider strategic ways of strengthening its areas of comparative advantage. In our judgement, however, Canada has relied on intervention too often, too extensively and in too *ad hoc* a fashion.

Canada's industrial policy should emphasize broad-based support programs that work in tandem with basic market forces. To the extent that government involvement is required as, for example, in R&D support, benefit/cost criteria should guide it.

This Commission does not propose a blueprint for industrial development; indeed, to attempt a detailed formulation would be counter-productive. We believe, however, that consistent with our emphasis on market mechanisms, there should be a clearly stated framework for industrial policy. Such a framework would facilitate both private-sector decision making in Canada and the co-ordination of government policies and programs. This stated framework should express the strategic objective for industrial policy. Commissioners believe that the productivity of Canadian industry should predominate over other concerns, and that we should concentrate on improving our competitive position.

Commissioners believe that industrial policy should fortify incentives for excellence, for the efficient allocation of resources, and for adjustment to new economic realities. Such a policy would produce increases in real income, fuller employment and the means to address income distribution.

To improve the productivity of Canada's human, capital, and natural resources, and the competitive position of Canadian industry, industrial policy should include the following elements:

- A supportive macro-economic framework that while controlling inflation, promotes growth of output and employment at a reasonably even pace, in accordance with the economy's capacity

- A commitment to freer trade and the freer flow of investment. We favour both multilateral freer trade and bilateral free-trade negotiations with the United States.
- A commitment to strengthening Canada's labour, capital, technology and management resources.

Capital, Technology and Management

Recommendations respecting education and training are addressed in Part V of this Report.

- With respect to capital, technology and management, this Commission makes the following recommendations.

Capital Formation

- International comparisons suggest that Canada has not suffered from any serious lack of investment over the last two decades. However, some recent economic analyses indicate that the tax treatment of savings and investment may result in a capital stock that is too small.
- While this Commission has not reviewed the tax system in detail, it does appear to us that government should examine the effect of this system on savings and capital formation. This examination should consider the adequacy of the current allowances for inflation in the tax treatment of savings and investment. It should also consider the desirability of altering the current personal tax system by substituting an expenditure base for the income base.

Domestic R&D

The effectiveness of R&D expenditure is more important than setting a target level in relation to GNP.

- To increase the effectiveness of domestic R&D, governments should consider the following measures:
 - Ensure the availability of existing incentives to all business through some type of refundability of tax losses.
 - Broaden the definition of R&D while lowering the rate of tax subsidy, even though we recognize that such a broadening could give rise to administrative problems.
 - Ensure that adequate resources are devoted to obtaining information about foreign technological developments and to disseminating information on technological developments to domestic industry.
 - Encourage excellence by concentrating Canadian effort on projects, research and development of world-scale value

through “networking” between experts within Canada, as well as internationally.

- Reduce protection of domestic industry and encourage it to be more competitive internationally.

Technological Acquisition

New technologies are increasingly shared on a global basis, and the originating country has little lead time over others to exploit its advantage. Canada draws extensively from the world pool of new technologies, in part through investment in Canada by multi-nationals. New manufacturing technologies spread more slowly in Canada than they do in other countries.

- A potential solution is to liberalize trade and to reduce the existing barriers to the flow of equity capital.
- Public policy in education and the gathering and dissemination of information could improve technological adaptation in Canada. Post-secondary institutes should place more emphasis on science, engineering and business courses. Universities should be more active in the commercialization of inventions. The National Research Council's initiatives on information gathering and dissemination could be a model for other agencies. Technology brokers, contract-research organizations and think-tanks have assisted technology acquisition in other countries. Both the private and public sectors in Canada should consider more activity of this nature.

Management and Entrepreneurship

- Increased international competition demands that Canada draw on world-class management. We should have greater exposure to competition, a reorientation of small-business/assistance programs, and strengthened business schools. Closer bonds between business and the arts community would improve product design.
- Entrepreneurship is another key component of national economic development. While small business is a vital source of entrepreneurship, other sources also require encouragement. Governments should consider changing regulations to stimulate equity investment by financial intermediaries in small and medium-sized firms, and change the tax system to make equity ownership more attractive.

Framework Policies

Another element that is needed to improve Canada's economic position is a commitment to framework policies that encourage the private sector to adapt to change and the efficient allocation of Canada's human, capital and natural

resources. Framework policies include tax policy, competition policy, general regulatory policy, foreign investment and adjustment policy.

■ Our recommendations in each of these areas are as follows.

Tax Policy

- While Commissioners have not undertaken a comprehensive review of tax policy, they have investigated the issue in general terms and looked at some specific problems. Tax policy has a fundamental influence on economic and social choices.
- We recommend a thorough review of the influence of the tax system on decisions that distinguish work and leisure, and consumption, savings and investment. Policy makers must become more aware of the efficiency costs of the tax system. In addition, Canadian tax policy must recognize the fluidity of capital flows.
- There appears to be merit to building on recent changes that moved personal income tax in the direction of a personal consumption tax.
- Governments should review non-neutralities in the corporate tax structure and consider indexing of capital assets for inflation. Alternative accounting methods of defining the corporate tax base, such as the cash-flow approach and the refundability of negative taxes, are also worthy of review. Such provisions could replace fast write-offs of exploration and development expenses in the resource sectors, and accelerated capital-cost allowances in the manufacturing sector.

Competition Policy

Canadian industry appears to have become more concentrated at the producer level over the past decade. However, trade liberalization and deregulation have reduced concentration at the seller level. Mergers and conglomerates can result in undue concentrations of economic power; they can also improve efficiency and competitiveness internationally.

- Canada's competition policy should better reflect both of these realities. Commissioners recommend that Parliament empower the Director of Investigation of the Combines Investigation Act to report on all developments that impede competition in Canada, including trade protection and regulatory provisions. We recommend further that governments exercise greater discretion respecting mergers and conglomerates, directing restraining provisions to those cases where a clear threat to competitive practices is evident. With increased trade liberalization, the primary area of concern could be the non-internationally trading sectors of the economy. Canadian firms should

retain the right to co-operate with one another in export markets, provided that they do not reduce domestic competition, and clarification should be offered through advance rulings. All large corporations, public and private, Canadian owned and foreign owned should be required to file annual reports with the government.

The Regulatory Framework

Commissioners do not accept the simplistic notion that regulation should always be kept to a minimum. Some current problems, such as those associated with the environment, can probably be addressed only through an increase in regulatory activity. In many other areas, however, a reduction in regulation, and a concomitant increase in competition, would substantially increase economic efficiency. Even where regulation is necessary, it could in many cases be made simpler and more responsive to changing conditions.

- We recommend that government undertake to review and reform the regulatory framework as a whole. Regulatory agencies should be subject to closer Parliamentary scrutiny than they are at present, and their mandates should be more clearly and closely defined. Whenever possible, regulatory activity should be subject to a "sunset clause": that is, it should be limited in advance to a specific term.

Crown Corporations and Privatization

- The sale of some Crown corporations to the private sector would be a logical concomitant of deregulation, since it would enhance competition. By the same token, the federal government and the provinces should arrest the tendency toward nationalization or mixed enterprises, particularly insofar as this tendency is associated with industry bail-outs. Both levels of government should reassess the functions of these Crown corporations and mixed enterprises. If the functions or objectives of a given Crown corporation could be met more effectively by other means, the enterprise in question should be either phased out or sold to the private sector. If a Crown corporation is to be privatized, foreign buyers should not normally be excluded from bidding for the assets. Exceptions to this rule include cases where purchase by a foreign buyer would result in barriers to entry by other competitors, or where the industry in question should be reserved for Canadians.

Foreign Investment

Over the past 15 years or so, Canadian ownership of our industries has increased substantially. It is now appropriate to re-examine mechanisms for

monitoring foreign investment in Canada. Bill C-15 provides some useful guidelines, but further innovations are required to balance the need for international equity funds and the need to foster good corporate citizenship.

- The review of foreign-investment proposals should be conducted by a quasi-judicial tribunal to ensure full public disclosure and political accountability. Fast-track procedures and practices for the handling of commercial confidences would need to be developed. Commissioners believe that new foreign investments need no longer be reviewed; the tribunal should review acquisitions only. The threshold for review should be raised from \$5 million in gross assets to at least \$50 million in order to focus resources on the larger and more critical take-overs. The review process should emphasize the competitive and technological conditions surrounding the proposed foreign take-over. The government should clarify the standards governing the post-entry behaviour of foreign investors by promulgating a general code of conduct applicable to all major firms, domestic and foreign, operating in Canada. To promote compliance with the code of conduct and to improve our understanding of the consequences of foreign control, the government should legislate an annual reporting requirement for all major firms or for corporate groups operating in Canada with assets in excess of \$50 million. Firms should be required to disclose specified types of information relevant to their observance of these guidelines. Canadian directors should be required to file an annual statement detailing their firm's efforts to achieve the objectives of enterprise performance set out in the proposed code of conduct.

Adjustment Policy

- Whenever possible, adjustment assistance should be provided to workers rather than to firms. Commissioners recommend the institution both of tougher international agreements and of mandatory reference to a neutral agency, such as the Tariff Board, in order to make it more difficult for governments to resort to protection of declining industries. By the same token, we also recommend that it be made more difficult for governments to resort to the use of firm-specific subsidies; this could be done by attaching conditions to the recipients, and by requiring the costing of off-budget subsidies. If firm-specific subsidies are given in declining sectors, the assistance should go to the most viable, and not the weakest, firms. Part V deals at length with our recommendations regarding labour adjustment policies. Declining single-industry communities require special labour-adjustment assistance.

If the economy is flexible and adaptable, adjustment will probably be much easier, and involve less unemployment. In addition, real income levels will be improved. Flexibility in prices and wages—or, more generally, the development of successful incentives—is the key to achieving a flexible and adaptable economic structure.

Infrastructure Support Services

This Commission views policies regarding transportation, communications and infrastructure generally as vital components of an industrial policy designed to enhance Canada's productivity growth and overall competitiveness. Commissioners note with concern the shrinking share of government expenditure devoted to such infrastructure.

■ We urge both the public and the private sector to view investment in the transportation and communications field as a priority. While Commissioners recognize that a strong public role in this field is both inevitable and desirable, we conclude that deregulation and a more market-oriented approach is desirable.

The private sector should be encouraged, through the tax system and government programs, to adopt the technological and other measures necessary to establish a first-rate transportation and communications network across the country. Canada needs better mechanisms for accommodating divergent regional-investment policies and regulatory policies that have national implications.

Government Intervention

■ Government should provide itself with a clear set of guidelines to determine the nature of its intervention at the sectoral or firm level. Given the difficulty of measuring the costs and benefits of intervention, Commissioners recommend that selective intervention be used sparingly. Few cases warrant special attention, and the burden of proof should be on those that propose intervention at the sectoral or firm level. A strict limit on the funds budgeted for intervention is essential. Intervention should be undertaken only where there is clear evidence of market failure, or in industries that exhibit substantial economies of scale, or where high risk and large size make it difficult for market forces to operate adequately. Where these considerations prevail, the following guidelines should apply:

- The benefits of intervention must demonstrably exceed its costs.
- If efficiency is not the overriding objective, the objective should be achieved at the least cost.
- There must be sufficient consultation with business and labour to ensure that the chosen means of intervention are appropriate.
- International obligations must not be jeopardized.

The Economic Union

■ A commitment to a strengthened economic union is a vital element of a healthy Canadian economy. Barriers to the free flow of labour, capital goods and services should be minimized, and integration of policies should be harmonized. □

Stabilization and High Employment

For structural and institutional reasons, the rate of unemployment consistent with stable inflation in Canada is in the range of 6.5 to 8 per cent. Expansionary monetary and fiscal policies cannot sustain levels of unemployment below this range over the longer term. A permanent reduction in such "structural" unemployment would require structural changes, by which we mean such policies as freer trade, labour-market adjustments, and new mechanisms for labour-management relations.

The current rate of unemployment (about 11 per cent) is well above the rate consistent with stable inflation. This unacceptably high rate is the result of an insufficiency of total demand relative to total supply. Impediments to reducing unemployment by even 3 to 4.5 percentage points are the large federal government deficit, the high real current rates of interest and the extraordinarily complex role played by expectations.

Limitations in forecasting and lags in the effect of policy action argue against moderating short-run fluctuations in economic activity through discretionary action. The federal government should use stabilization policy to achieve non-inflationary growth in demand in the medium term, while preserving automatic fiscal stabilizers. However, economists disagree about the strength of the self-righting forces in the economy, that is, the forces that will drive unemployment toward its "natural" or full-employment level. Commissioners believe that discretionary stimulus or restraint can help in periods of major extended divergence in demand from a non-inflationary growth path.

Global interdependence, especially in capital markets, limits the degree to which policy can insulate an open economy such as Canada's from foreign developments. Given our flexible exchange rate, we can choose our inflation rate in the long run, and to that extent, we can have a made-in-Canada macro-economic policy. But the influence that we can hope to have on real demand in our own economy is likely to be short term in nature and rather limited in scope.

■ To preserve independence in domestic policy for Canadian authorities, this Commission recommends a flexible exchange rate. We do not recommend exchange controls or an interest-equalization tax to control capital outflows.

Commissioners share the widespread concern about the size of the federal government's deficit. We recognize that if the government does not reduce the current structural deficit, it will have to increase taxes just to pay interest costs and will find its flexibility seriously constrained.

■ Commissioners recommend a strategy of gradual deficit reduction, given the current outlook of slow recovery. To stabilize or decrease the debt/GNP ratio, the government will need to reduce the deficit by about 1.5 per cent of GNP, which would be equivalent to \$10 billion by 1990–91. The practice of laying out an explicit medium-term fiscal plan, introduced in the December 1979 budget and continued since, is useful. We favour using a combination of tax increases and rather broad expenditure reductions to reduce the deficit. The precise means of achieving this reduction are a matter for shorter-term government policy, but Commissioners offer one possible means for consideration. This would be to set the indexing factor for the personal income tax and for some transfer-payment programs at x percentage points below the rate of inflation and to hold the price factor for all other expenditure programs—except foreign aid and national defence—at x percentage points below the rate of inflation. Setting these annual indexing factors three percentage points below inflation for a period of three years would generate a reduction in the deficit of about 1.5 per cent of GNP, thereby reducing the deficit and by that amount the deficit/GNP ratio from the 6 to 7 per cent range projected for the late 1980s.

■ Under present circumstances of high unemployment, a shift to a less expansionary fiscal stance, so as to reduce the deficit, should be more than matched by a temporary shift to a less restrictive monetary stance. A moderate increase in the projected growth of demand, which might significantly reduce unemployment and strengthen investment, should still be consistent with a further reduction in inflation.

While Commissioners recognize that adherence to a steady monetary-growth guideline can help to ensure that a stable, non-inflationary environment will be maintained, shifts in the demand for money during the past few years have made this approach difficult to apply. Furthermore, such an approach might lessen governments' ability to adjust the mix of monetary and fiscal policy in order to balance consumption and investment, and to balance the sectors of the economy that are strongly influenced by the exchange rate and the sectors that are not.

■ As a compromise solution, the government could relate demand-management/policy targets to the growth of nominal GNP. This policy would require a willingness to adjust monetary-growth targets to nominal GNP, in the event of significant shifts in relation of the money supply, and monetary and/or fiscal policy in the event of severe prolonged departures of nominal GNP from a steady growth path. Commissioners recommend that the joint setting of monetary and fiscal policy be consistent with non-inflationary growth of nominal demand.

Commissioners have also considered potential adjustments to lessen the distortions and damage that any continuing inflation imposes. We share what seems to be a general preference, that has emerged over the last few years, to emphasize low and stable inflation, rather than structural adjustments that would make it easier to live with inflation.

■ Despite the preceding conclusion, Commissioners believe that serious consideration should be given to indexation of financial assets, accounting systems and tax systems. To adjust the tax system to take inflation into account would improve its neutrality in general and lessen the incentive to rely on debt financing in particular.

In Commissioners' judgement, permanent wage and price controls or even a permanent tax-based incomes policy would probably not prove acceptable to Canadians and would not be consistent with our general approach of promoting a flexible, adaptable and growth-oriented economy.

■ We do, however, recommend the temporary use of controls or incentive-based incomes policies if the country needs to reduce inflation again. Furthermore, the use of temporary controls could bring about a more rapid reduction of unemployment than presently seems to be in prospect. Such temporary controls should be the subject of negotiation with business and labour groups.

Commissioners believe that a formal voluntary incomes policy, which would involve commitments to respect common guidelines for wage increases and for price or profit patterns, will be difficult to achieve, given the structure of labour and product markets in Canada.

■ We recommend, however, continued informal and formal consultation on a broad range of economic issues, and increased openness about the bases of economic policy formation. Such an approach might assist public understanding and encourage realistic attitudes about wages and prices. It might also contribute to lower unemployment.

■ Commissioners believe that gain sharing—that is, making compensation more dependent on the current performance of the firm or industry—offers the most promising approach to achieving greater cyclical stability in employment and productivity growth. Gain-sharing would be viable only in an environment of greater trust and openness, and thus we tie our recommendation for its use to our position on consultation noted above.

■ Commissioners recommend to labour, business and governments that they consider some form of incomes policy, coupled with supportive monetary and fiscal action, to increase employment. Without such a comprehensive approach, reduction of unemployment to the level of 6.5 to 8 per cent may be a lengthy and difficult process. Furthermore, without such a demonstration

of political will by all major groups in society, and by individuals as well, the prospects for undertaking major structural changes to reduce unemployment below 5 per cent would appear to be less bright. This basic challenge of political will is the central determinant of improved economic performance. □



PART IV

NATURAL RESOURCES AND ENVIRONMENT

PART IV

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Introduction

The natural environment and its resources are special to Canadians. We usually describe our economic history as the exploitation of a sequence of resource products: fish, fur, timber, wheat, minerals, and, most recently, oil and gas. Each product has left its distinctive stamp on Canada's economy, its politics, and even the Constitution. In short, natural resources have been the basis upon which our country was built.

Our natural resource endowment has also shaped this country in a more fundamental sense. Canada's status as a resource-rich nation contributes in significant ways to our culture and our international identity. The pursuit of resources opened each of the country's several regions and created most of its thousands of communities, and always the nature of the resource and the character of the environment in which Canadians found it contributed to a uniqueness of the region or the community. All Canadians have certain qualities in common, but the expression of these qualities will not be precisely the same in a Newfoundland outport, a mining town in northern Ontario, and a farming community in Saskatchewan. The many aspects of our environment—and the many different uses we have made of it—are responsible for much of our national diversity, of which we are justly proud, and for not a little of our regional friction, which we have sometimes had reason to regret.

Although resources and environment have contributed so largely to Canadian development, they have not been without problems. Resource industries are notoriously cyclical, and it is partly, at least, on this account that our economy has alternated between “boom” and “bust”, often over very short periods. Moreover, we have tended to rely on foreign capital and expertise to develop mineral deposits, while at the same time we have worried about the consequences of foreign control of so much of our natural endowment. Almost from Canada's beginning as a nation, we have been

dissatisfied with our role as primary producer, and we have sought ways to increase the local processing of products. In addition, intergovernmental relations touching on resource issues have not always been smooth; nor have our goals for the resource industries always been clear. Finally, while we still think of Canada, as does the international community, as a vast and unspoiled land, we are also aware, at the same time, that many parts of the country show the scars of a sometimes-wanton disregard of the fragility of our natural endowment.

If we Canadians have sometimes had doubts about the role that our resource endowment has given us, we have nonetheless retained a confidence that it is indeed our role. Even now, we ourselves and the world at large perceive Canada as a country whose economy is based on an abundance of natural resources. Yet however great the contribution of those resources to Canada's social and economic development in the past, can we safely assume that they will make a dominant contribution to our future? Are we, in fact, losing our historic comparative advantage in natural resources? If so, then two further questions arise. First, does this loss of advantage apply to resources in general, or only to particular sectors or commodities? Secondly, does it mean that Canada will be forced to undergo a process of major economic adjustment? In particular, must Canadians create a fundamentally new economic basis for our country, one that relies less on natural resources and more on human resources?

There are many developments in both our domestic and our international economies which signal a change in the function of resource industries. While our resource industries are still important—indeed, often vital—and will remain so to many regions and localities, we are becoming relatively less dependent on resources *as a nation*. Moreover, although there is certainly much that we can do to retard this tendency, we may not be in a position to reverse it. Although our natural resources are still abundant by world standards, they are by no means as boundless as perhaps they once seemed to be. In some resource sectors, such as forestry, we are approaching—in fact, some would say have passed—the practical limits of growth. It seems to this Commission that our confidence in the plenitude of our resources has made us wasteful. In other sectors, such as mining, we find that changing technologies and slower growth have reduced world demand for some of our key minerals. Foreign competition, especially from developing countries, poses another and a growing threat to our traditional role as a leading exporter of resource products. Our resource sector's declining relative importance is not entirely the result of changing demand and physical scarcity, however; to a considerable extent, it is also the result of poor management. We have failed in many ways to make the best of what we have, so great has been our confidence that we shall always have it.

The lesson is that Canadians can no longer take natural resources for granted. We can no longer expect them to provide either the leading edge for future economic growth or an automatic solution to our troubles in times of economic difficulty. To the extent that we continue to rely on resources, we shall have to ground that reliance in responsibility. In general, the issue will

not be how quickly we can exploit our resources, but how well we can manage and sustain them. Resource policy will have to take into account not only our needs ten or 15 years from now, but also the needs of generations to come.

Resource issues are prominent in this Commission's mandate to examine Canada's prospects. Not only are they important to our economic prospects, but they are also important because of what they imply about Canada and Canadian institutions generally. The questions associated with resources and the environment have become bound up with almost every other issue that presently concerns Canadians, from education to federal-provincial relations, to the role of government in our economy. This suggests that it will not be possible to address the problems of individual resource sectors in isolation. If particular solutions are to work, they must be carried out in a context of broader co-operation and institutional change. Before we can design such a context, however, we must accept the fact that many of our traditional assumptions about Canada, our institutions, and our role in the world may no longer be accurate.

Canadians have begun to adjust to a more realistic view of the place for resources in Canada's future growth. During this Commission's cross-country hearings, more than a few intervenors expressed the opinion that our natural resource endowment will not yield the same proportion of benefits in the future as it has done in the past. The Machinery and Equipment Manufacturers' Association spoke bluntly:

We must accept that the potential for resource industry expansion has now become limited for reasons over which we have no control. The expansion of our manufacturing industries, however, if nationally well managed, can be assured.

(Machinery and Equipment Manufacturers' Association of Canada,
Brief, August 27, 1984, p. 5.)

According to Polysar, "Canada should encourage the exporting of Canadian expertise rather than the exporting of our resources." (Polysar Limited, Brief, September 13, 1984, Attachment B, p. 3.) The Mining Association of Canada took a pessimistic view of its own sector's situation:

Canadian production for most metals . . . as well as the volume of [proved] ore reserves, declined; Canada's share of world markets decreased; and . . . employment stagnated. Moreover, the industry is no longer discovering and opening new mines at rates sufficient . . . to maintain present output.

(Mining Association of Canada, Brief, November 23, 1983, p. 2.)

Agreement with such sentiments was far from unanimous, however. David Culver, President and Chief Executive Officer of Alcan Aluminium Limited, confronted the issue head on:

There is a growing perception that Canadian resource-based industries are industrial "losers". I think we would be making an enormous error if we subscribed to this thinking. Canada's natural resources continue to be in demand—whether it be coal in B.C. or oil off Newfoundland.

(Alcan Aluminium Limited, Brief, August 2, 1984, p. 4.)

The Canadian Chamber of Commerce supported this view:

We do not believe ... that Canada's primary resource industries ... stand condemned. As industrialization spreads among the three-quarters of the global population now classed as economically developing, the world's need for abundant resources at reasonable cost will increase. This will provide continuing opportunities for Canada as a producer of food, energy, minerals and other resources.

(Canadian Chamber of Commerce, Brief August 23, 1984, p. 40.)

These two points of view are not irreconcilable. No one doubts that our Canadian resource sector continues to be important, or that it possesses opportunities for future growth. However, the resource sector is no longer alone, or nearly alone, in its importance; nor can it be, if we are to maintain an economy that will sustain us in the future. The point Commissioners would emphasize is that unless major efforts to manage our natural resources better are made a national priority, the relative decline in the importance of resources to Canada will be needlessly and irresponsibly hastened.

Chapter 11 presents the main points of the evidence from which Commissioners derive these conclusions. Our emphasis in this chapter is on the role of resources in the national economy. But Chapter 11 does not tell the whole story, as there are hundreds of communities whose well-being still depends on the health of one or another of the resource sectors. Many intervenors talked about the problems, prospects and policy needs of particular resource industries. Their concerns were not long-term and general, but immediate and personal. They saw their livelihood or their communities threatened by land salinization, or by the depletion of timber stocks, or by a loss of foreign markets, or by what they saw as inappropriate taxes or government directives. Our second task, then, is to address these more specific concerns. In Chapter 12, we assess the prospects and policy needs of the individual resource sectors and propose some remedies. In each instance, we have been guided by the general analysis in Part III of this Report, which suggests that there will be a greater need in the future to encourage flexibility and adaptability in the economy and to give greater weight to concerns of efficiency in designing government policy and the incentive structure for the private sector.

As we Canadians learn not to take our resource endowment for granted, we become increasingly aware of the fragility of that endowment. This Commission had no mandate to mount large-scale research efforts into particular environmental matters such as acid rain and land salinization. Nevertheless, we Commissioners were very much struck during our hearings by the breadth and intensity of concern expressed by many Canadians about environmental issues. Moreover, we are convinced that to manage the natural environment in accordance with constructive environmental principles will improve the prospects for our resource-based industries. Accordingly, Chapter 13 assesses the scope of the regulatory task and the ability of our institutions to respond to current and future environmental issues. We do not mean to suggest that the problems of the environment are solely, or even primarily, linked to the resource sector. The other sectors of the economy and the new urban environment they have produced are at least equally culpable

in this regard. We voice our concerns about the environment at this point in our Report simply because, wherever the specific blame may lie, it is Canada's natural endowment that suffers the consequences of our neglect. This endowment has been the source of much that makes our nation Canadian, and we have a responsibility to pass it on, substantially intact, to future generations.



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Resources and Canadian Economic Development

The Role of the Natural Resource Sector

There are two senses in which the natural resource sector – and every other sector – contributes to the economic well-being of Canada. In the first place, natural resource goods are part of what we produce as a nation, either for our own consumption or for export in exchange for other goods. What matters in this context is the extent of our resource production and its value relative to other goods and services. By this measurement, we face economic dislocation in the future if the contribution of resources to aggregate output is reduced, or if the terms of trade are to turn against primary goods.

The other perspective on resources and the economy looks at the sector not as a producer of goods, but as an employer of capital and labour. The important point in this instance is the number of jobs a particular natural resource project will provide or, conversely, how many jobs will be lost if a given mine or mill should close. As a source of income from direct employment and investment, the natural resource sector will only contribute to our economic future if it is able to absorb significant numbers of new workers.

Let us begin with output. Table 11-1 gives the current dollar values and percentage shares of the natural resource industries' contributions to gross domestic product (GDP) for various years since 1926. Note that in absolute terms, output in all sectors has expanded substantially and, for the most part, continuously. Overall, the resource sectors have expanded their value of output more than forty-fold since 1926, and more than twenty-fold since the Second World War.

As the percentage figures show, however, the value of output of the primary industries has not kept pace with the rest of our economy. Resources accounted for about 24 per cent of total GDP in 1926. Mobilization caused its relative contribution to drop to 16.5 per cent by 1941, but by the war's end it was back above 20 per cent. By 1971, however, only about 10 per cent of

TABLE 11-1 GDP at Factor Cost by Industry, Canada

(millions of dollars and percentage of total)										
Year	Agriculture		Forestry, Fishing and Trapping		Mines, Quarries and Oil Wells		Electric Power (Gas and Water)		Total	
	\$	%	\$	%	\$	%	\$	%	\$	%
1926	884	18.2	107	2.2	154	3.2	—	0.0	1 145	23.5
1941	670	9.1	156	2.1	391	5.3	—	0.0	1 217	16.5
1946	1 305	12.2	350	3.3	364	3.4	224	2.1	2 243	20.9
1951	2 322	11.8	562	2.9	814	4.1	410	2.1	4 108	20.9
1956	1 839	6.4	588	2.1	1 219	4.3	691	2.4	4 337	15.1
1961	1 498	4.2	462	1.3	1 398	4.0	1 036	2.9	4 394	12.4
1966	2 886	5.3	629	1.1	2 203	4.0	1 489	2.7	7 207	13.2
1971	2 791	3.4	743	0.9	2 840	3.4	2 385	2.9	8 759	10.6
1976	6 100	3.5	1 631	0.9	7 377	4.3	5 058	2.9	20 166	11.6
1981	10 399	3.3	3 037	1.0	18 649	5.9	11 032	3.5	43 117	13.7
1982	10 846	3.3	2 990	0.9	19 050	5.8	13 947	4.2	46 833	14.2

Source: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Tables 12.1 and 12.2.

national output originated in the resource sector. This trend was reversed after 1972 as rising values for most primary materials, especially energy, along with an increase in electrical power generation, caused their shares to rise again, by nearly 4 percentage points. By 1982, the resource sector's share of total output (14%) was essentially what it had been 25 years earlier. Thus while resources have fallen from the position they held in the early decades of the century, there has been little decline recently.

What has changed in recent decades is the relative importance of the various resource sectors. Agriculture's share of GDP has declined more or less continuously over the post-war period. Its contribution had fallen to approximately 6 per cent of total national output by 1956, and it has since been halved again. In the forestry, fishing, and trapping categories, most of the decline had also taken place by the early 1960s, with less significant decline since then. On the other hand, electric power and mines, quarries, and oil wells have improved their relative positions somewhat in recent years.

The provinces vary widely in their degree of direct dependence on resource industries. Those that rely most on resource production¹ are Saskatchewan, with its agriculture, and Alberta, with its agriculture and oil and gas. In 1982, as Table 11-2 shows, more than 20 per cent of Saskatchewan's gross provincial product (GPP) came from the primary sector, as did nearly 15 per cent of GPP in Alberta. Newfoundland and Prince Edward Island are also quite heavily dependent on resources, while Quebec and Ontario are the provinces least dependent. In keeping with the national pattern, there has

been relatively less decline in most provinces' degree of reliance on the resource sector since the 1960s than there was earlier. However, the resource share has been halved in Ontario and Quebec since the 1960s, and there has also been a marked decline in the sector share in Newfoundland, Nova Scotia, and British Columbia.

TABLE 11-2 Sector Shares of Gross Provincial Product

Province	(per cent)				
	Agriculture	Forestry	Fishing and Trapping	Mining ^a	Total Resource
Newfoundland					
1961	1.0	2.4	2.7	11.4	17.4
1971	0.7	1.3	2.1	13.5	17.7
1982	0.4	0.9	2.2	6.7	10.2
Prince Edward Island					
1961	9.3	0.0	3.1	0.0	12.4
1971	6.9	0.0	3.0	0.0	9.9
1982	9.9	0.0	2.5	0.0	12.3
New Brunswick					
1961	2.7	2.1	1.0	0.9	6.8
1971	1.6	2.0	0.7	3.0	7.4
1982	1.4	1.2	0.5	2.9	6.1
Nova Scotia					
1961	2.0	0.5	2.4	5.4	10.3
1971	1.4	0.6	1.9	2.7	6.5
1982	1.4	0.3	1.7	2.8	6.3
Quebec					
1961	2.7	0.9	0.1	2.1	5.8
1971	1.8	0.7	0.0	1.7	4.2
1982	1.4	0.5	0.0	0.8	2.7
Ontario					
1961	3.0	0.4	0.0	2.9	6.3
1971	2.0	0.3	0.0	1.9	4.3
1982	2.1	0.2	0.0	0.7	3.1
Manitoba					
1961	5.1	0.1	0.2	3.2	8.7
1971	7.0	0.1	0.1	4.1	11.4
1982	6.0	0.1	0.1	1.6	7.8
Saskatchewan					
1961	13.4	0.2	0.2	7.0	20.8
1971	23.5	0.2	0.1	8.1	31.8
1982	15.3	0.1	0.0	5.4	20.8

TABLE 11-2 (cont'd.)

Province	(per cent)				
	Agriculture	Forestry	Fishing and Trapping	Mining ^a	Total Resource
Alberta					
1961	8.4	0.2	0.1	10.1	18.7
1971	6.2	0.1	0.0	14.7	21.0
1982	4.6	0.1	0.0	10.0	14.6
British Columbia					
1961	2.0	4.2	0.8	2.6	9.6
1971	1.2	3.9	0.4	3.0	8.6
1982	1.6	2.2	0.4	2.4	6.7

Source: Conference Board of Canada, *The Provincial Economies* (Ottawa: The Board, 1984).

a. Includes hydrocarbons.

Much of the contribution that resources make to Canada's economic well-being arises from our opportunities to trade them for the goods and services of other nations. Two trends appear in Table 11-3. First, the value of resource exports has grown significantly over time, from less than \$2 billion at the end of the Second World War to nearly \$50 billion currently. Secondly, there has been a quite dramatic downward shift in the share of Canada's total export trade accounted for by resources. As late as the mid-1950s, the products of Canadian farms, mines, forests, and oceans provided 84 per cent of the value of the goods we sold abroad. Our *relative* dependence on resource exports began to decline with the sharp increase, in the early 1960s, in shipments of manufactured products, mainly autos and auto parts under the Auto Pact. By 1983, the resource sector's share of exports had fallen to about 51 per cent. Still, it is clear that our ability to export an ever-increasing value of resource products has been instrumental in giving us the standard of living we now enjoy.

Another dimension of the situation emerges if one looks at employment patterns. Table 11-4 shows both total employment in the natural resource sector for various years from 1921 to 1983 and each sub-sector's share of that total. At the onset of the Great Depression, one Canadian in three worked in resource industries, mainly in agriculture. The ratio was much the same 15 years later, at the end of the Second World War. Then came the shift of labour out of agriculture. Because of this shift, by 1956 the resource sector's share of total employment had dropped to slightly more than half of its pre-Depression level. By 1966, 10.7 per cent of the work-force was employed in resource industries. The decline since 1966 (to about 7 per cent of total employment in 1983) has been steady, but less spectacular, and most of it continues to occur in agriculture. The shares of the other sectors are much closer to what they were at the end of the war.

TABLE 11-3 Export Shares by Resource Sector

(millions of current dollars and percentage of total)

Year	Agriculture		Fishing and Trapping		Forestry		Mining ^a		Total Resources	
	\$	%	\$	%	\$	%	\$	%	\$	%
1931 ^b	—	218	33.8	—	170	26.3	113	17.5	501	77.7
1941 ^b	—	410	22.3	—	340	18.5	448	24.3	1 198	65.1
1946	771	31.5	118	4.8	626	25.6	451	18.4	1 966	80.3
1951	986	24.3	147	3.6	1 454	35.8	947	23.3	3 534	86.9
1956	988	20.4	133	2.7	1 496	30.9	1 471	30.4	4 088	84.5
1961	1 160	19.6	141	2.4	1 622	27.5	1 861	31.5	4 784	81.0
1966	1 790	17.3	217	2.1	2 239	21.7	2 933	28.4	7 179	69.5
1971	1 891	10.6	288	1.6	3 085	17.3	4 767	26.8	10 031	56.3
1976	3 832	10.0	597	1.6	6 534	17.0	11 424	29.7	22 387	58.2
1981	8 329	9.9	1 502	1.8	12 855	15.3	24 476	29.2	47 162	56.3
1982	8 885	10.5	1 597	1.9	11 961	14.1	23 025	27.2	45 468	53.8
1983	9 008	10.0	1 560	1.7	13 148	14.5	23 104	25.4	46 900	51.6

Sources: 1931–1951, 1983, *Bank of Canada Review, Statistical Summary* (Ottawa: Bank of Canada, various issues); 1966–1981, *Statistics Canada, Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Tables 6.9 and 6.10.

a. Includes hydrocarbons.

b. In 1931 and 1941, agriculture, fishing and trapping were one category.

In some resource sectors, absolute decline in employment has accompanied relative decline. In 1931, 1.1 million Canadians worked on farms. By 1961, the figure had fallen to less than 700 000 and in 1983 only 476 000 Canadians were employed in agriculture. The decline has been absolute in forestry as well (from 86 000 in 1961 to 75 000 in 1983). On the other hand, the number of fishermen and trappers has increased, particularly since the mid-1970s (from 18 000 in 1961 to 19 000 in 1976 to 36 000 in 1983). Employment in mining rose from 80 000 in 1961 to 210 000 in 1981, falling again to 170 000 in 1983.

As Table 11-5 shows, the variation in resource employment across provinces is marked. Nearly a quarter of Saskatchewan's labour force still works in the primary sector, while in Quebec, the proportion is less than one in 20. Resource employment in many localities and municipalities—Sudbury and Port Alberni, for example—remains high. Resource dependence is a concept that must be qualified to suit the geographical area one has in mind, a point to which we return below.

The employment and output figures reported in the tables in this section represent only a part of the resource sector's economic impact. Significant indirect effects arise from the sector's links with other industries. Backward-linked industries provide inputs to the resource industry itself, in the form of

TABLE 11-4 Employment by Natural Resource Sector, Canada

Year	(thousands and percentage of total employment)									
	Agriculture		Fishing and Trapping		Forestry		Mining ^a		Total Resources	
	#	%	#	%	#	%	#	%	#	%
1921	1 042	32.8	34	1.1	40	1.3	52	1.6	1 167	36.8
1931	1 128	28.7	48	1.2	50	1.3	72	1.8	1 298	33.1
1941	1 082	25.8	51	1.2	94	2.2	93	2.2	1 320	31.5
1946	1 186	25.4	27	0.6	84	1.8	74	1.6	1 371	29.4
1951	939	18.4	30	0.6	115	2.3	79	1.5	1 163	22.8
1956	776	13.9	20	0.4	118	2.1	117	2.1	1 031	18.5
1961	681	11.2	18	0.3	86	1.4	80	1.3	865	14.3
1966	544	7.6	26	0.4	76	1.1	121	1.7	767	10.7
1971	510	6.3	22	0.3	72	0.9	129	1.6	733	9.1
1976	472	5.0	19	0.2	70	0.7	145	1.5	706	7.4
1981	485	4.4	35	0.3	78	0.7	210	1.9	808	7.3
1983	476	4.4	36	0.3	75	0.7	170	1.6	757	7.1
									1 886	17.6

Sources: Statistics Canada, *Labour Force Annual Averages, 1975-1983*, Cat. No. 71-529 (Ottawa: Minister Supply and Services Canada, 1984); and *Historical Statistics of Canada*, 2d ed. (Ottawa: Statistics Canada, 1983).

a. Includes hydrocarbons.

excavation machinery, transportation services, fishing boats and agricultural machinery. Forward-linked industries, such as smelting and refining, fishpacking, and food processing, use the output of the resource sector as inputs. While not all of the resource sector's indirect effects on the economy are readily ascertainable, it is certain that the sum of these effects is large. The food and beverages industry alone employed 14 per cent of all workers in Canada's manufacturing industries in 1982. And, of course, incomes earned in the resource industries themselves are spent on consumer goods and services such as housing, food, and entertainment.

In some parts of Canada, resources also contribute significantly to government revenues. In 1981, resource revenues constituted 45 per cent of gross general revenue in Alberta, nearly 20 per cent in Saskatchewan, and 6

TABLE 11-5 Employment in Natural Resource Sector by Province

Province	(per cent of total provincial employment ^a)				
	Agriculture	Forestry	Fishing	Mining ^b	Total Resources
Newfoundland					
1966	— ^c	3.0	16.5	5.0	N.A.
1976	—	1.2	16.3	3.9	N.A.
1982	—	1.1	15.8	2.3	N.A.
Prince Edward Island					
1921	59.5	—	4.0 ^d	—	N.A.
1966	19.7	—	9.1	—	N.A.
1976	13.2	—	4.6	—	N.A.
1982	12.7	—	6.6	—	N.A.
Nova Scotia					
1921	26.5	—	8.0	—	42.3
1966	4.6 ^e	1.0	5.5	3.1	14.2
1976	2.7	0.6	3.4	1.5	8.2
1982	2.1	0.7	3.5	1.7	8.0
New Brunswick					
1921	35.4	—	5.4	—	41.4
1966	5.4 ^e	4.0	3.0	1.4	13.8
1976	2.6	2.5	2.1	1.2	8.4
1982	2.8	1.8	2.4	1.3	8.3
Quebec					
1921	28.1	—	1.9	—	30.5
1966	5.0 ^e	1.1	0.2	1.3	7.6
1976	3.0	0.6	0.2	1.0	4.8
1982	3.0	0.5	—	0.8	N.A.
Ontario					
1921	26.4	—	0.9	—	28.1
1966	4.5 ^e	0.5	0.4 ^f	1.2	6.6
1976	3.1	0.2	0.1 ^f	0.9	4.3
1982	3.2	0.3	0.1 ^f	0.7	4.3

TABLE 11-5 (cont'd.)

Province	(per cent of total provincial employment ^a)				
	Agriculture	Forestry	Fishing	Mining ^b	Total Resources
Manitoba					
1921	40.1	— 0.3 —		0.1	40.5
1966	14.0 ^c	0.4	0.4 ^f	1.6	16.4
1976	8.9	0.2	0.1 ^f	1.6	10.8
1982	9.1	0.3	0.1 ^f	1.1	10.6
Saskatchewan					
1921	65.4	— 0.3 —		0.1	65.8
1966	28.4 ^c	0.1	0.4 ^f	1.6	30.5
1976	24.6	0.2	0.1 ^f	1.7	26.6
1982	20.0	0.2	0.1 ^f	2.2	22.5
Alberta					
1921	52.8	— 0.4 —		4.0	57.2
1966	14.2 ^c	0.5	0.4 ^f	3.4	18.5
1976	13.9	0.2	0.1 ^f	4.1	18.3
1982	6.8	0.2	0.1 ^f	5.3	12.4
British Columbia					
1921	16.0	— 7.8 —		4.9	28.7
1966	3.1 ^c	2.9	1.8	1.4	9.2
1976	1.8	2.1	1.6	1.3	6.8
1982	2.5	1.4	1.4	1.3	6.6

Sources: Statistics Canada, CANSIM (Ottawa: Minister of Supply and Services Canada, 1983); *Labour Force Annual Averages, 1975-1983*, Cat. No. 71-529 (Ottawa: Minister of Supply and Services Canada, 1984); Department of Fisheries and Oceans, *Annual Statistical Review 1982* (Ottawa: The Department, 1984). For 1921, Census of Canada 1931 (Ottawa: Dominion Bureau of Statistics), vol. VII, Table 8.

Note: N.A. = not available because of missing sub-totals.

- These figures do not include employees engaged in the further processing of natural resources, for example in pulp and paper and metal products.
- Includes hydrocarbons.
- Information not released by Statistics Canada for reasons of confidentiality: small employment figures.
- In 1921, forestry and fishing employment were covered by one category.
- 1966 agriculture figures are for males only.
- Fisheries estimates are averages for Ontario and Prairie provinces.

per cent in British Columbia. However, the other provinces derive only very limited revenues from natural resources, and only in Alberta, Saskatchewan and British Columbia have these revenues grown in importance over time. In most of the other provinces, the revenue share from natural resource rents has declined substantially in the last 30 years.²

Two conclusions follow from this brief overview of past performance. First, in relative terms, our natural resource sector contributes much less to national economic activity now than it did in the past. This decline began in earnest

immediately after the Second World War and was largely complete by the mid-1960s. In the 1970s, many observers believed that the pattern of decline was about to be reversed, partly because of the resource boom in western Canada. Indeed, in 1981, the federal government proposed a medium-term strategy based on Canada's resource strengths.

Output in the natural resource industries has continued to grow absolutely, and in a few instances, employment has continued to grow as well. Other sectors, however, have grown so much more rapidly that the relative share of output and employment accruing from resources has shrunk significantly. The relative decline of employment is especially pronounced because of productivity increases in the resource industries. The mix within the natural resource sector has been altered somewhat, with agriculture continuing to slip and energy and hydro expanding, particularly in recent years.

Secondly, while the natural resource sector no longer looms as large in the national economy as it once did, it continues to dominate the economic life of some provinces, some areas within every province, and many localities. Grain prices are still important in Saskatoon, as are fish landings in St. John's. And many Canadians are only too familiar with the fact that in one-industry towns, a downturn in demand for minerals or plywood can mean the death of the community. In many ways, it is misleading to talk in general or national terms about dependence on resources.

What does the foregoing analysis tell us about the place of resources in future Canadian economic development? The long-term forecasts made in Part III presented an overview of the resource sector and warned of serious problems. Our own sectoral analysis suggests the same conclusion, at least in some respects. In an absolute sense—dollar value of production, for example—resources will be at least as significant as ever. Entire industries are not about to shut down, although individual mines, farms, or fishing enterprises might. Large numbers of Canadians will continue to work as farmers, loggers, fishermen, miners, and roughnecks. We shall also continue to find markets for our resources abroad that will provide us with ongoing access to the products of other nations.

In an absolute sense, then, Canadians will continue to see resources as a fundamental part of our economy. There are problems with dependence on resources, most notably cyclical instability and the tendency for employment to grow only very slowly over time or even to decline, but there are many positive features as well. Resources do provide skilled jobs. It was pointed out to Commissioners repeatedly in our hearings that resource industries are some of the highest-technology concerns in the world. They can therefore provide employment, and hence a "stay option", in regions of the country that are unlikely to attract manufacturing or service industries.

In a relative sense, however, it is likely that the resource sector as a whole will continue to decline, albeit more slowly than in the immediate post-war period. Output is unlikely to grow as quickly as that for manufactured goods and services so that the share of GNP attributed to these activities will fall further. Exports of resource products will continue to expand, and the terms of trade are unlikely to turn against us in any dramatic fashion. Nevertheless, this trade orientation will increasingly need to be supplemented by more

highly processed products in order to maintain our access to the goods and services of other nations.

Where employment is concerned, the pattern of relative decline will be even more pronounced. Overall, resource industries are unlikely to provide any net new jobs in the future. As in the early 1970s, this may not be true in all cases or in every year. Generally speaking, however, Canadians will have to find more and more of their jobs and sources of income on the factory floor or in the office tower. It is in this sense more than in any other that the fear is justified that resources are no longer the engine of growth they once were.

What do these conclusions portend for future adjustments? Are we at a turning point as regards the role of resources in Canadian economic development? From the perspective of the national economy, we have dealt, in the past, with much larger dislocations stemming from structural changes in the resource sectors than we are likely to face in the future. To argue that we now face special problems in this respect requires demonstration either that the costs of adjustment in the immediate post-war years were so large that even to repeat them on a much reduced scale is unthinkable, or that the economic climate is so different now that even much smaller dislocations will be more difficult to absorb. On the former point, it is, in fact, commonplace to remark on how smoothly we moved in such a short time from a predominantly rural to a largely urban society.

The second consideration is more substantive. Is it true that our capacity to adapt to even small economic shocks is now so much reduced? Could we not handle another off-farm exodus of the extent seen on the Prairies in the 20 years following the war? Our conclusions in Part III indicate that our ability to adjust remains high. However, to the extent that Canadians have elevated place-prosperity to a position above that which it occupied previously, relocation becomes more difficult. If we no longer accept that displaced farm workers from one province will take up jobs in another, or that resource towns will close as mineral deposits become uneconomic, it becomes that much more important to maintain the resource base. If, however, the resource-related economic base is truly inadequate, this adjustment, though painful, is probably inevitable and best proceeded with promptly. If, on the other hand, the inadequacy stems from the needless deterioration of resource-industry prospects, government actions to restore the balance may well be justified.

These prospects do not provide justification for neglecting the resource sectors. Indeed, for reasons of national comparative advantage, local and regional development, and national self-esteem, it is important to address problems that do exist. We may not have maximized our potential for natural resources in the past, but it is important that mismanagement not be the cause of any future decline. While the bulk of adjustment took place in the post-war years, we have continued to think and act as though resources guaranteed our prosperity. They may no longer do so.

There *are* problems, in fact, in each of our main resource sectors, in some instances, quite serious ones. Often, however, they are problems that can be overcome by appropriate policies. Finally, it is important to address problems quickly because resource industries discharge a function in our society that is

far in excess of what mere statistical indicators of jobs or value added can convey.

It must be stressed that the following review of specific sectors³ and the policy prescriptions Commissioners have to suggest are necessarily brief. The breadth of our mandate precluded us from undertaking detailed and specialized studies of individual industries. We attempt only to flag what we see as important problems, and to indicate how reform might proceed in a direction consistent with the main themes of this Report.

Notes

1. Not including electricity, for which no consistent statistical series is available on a provincial basis.
2. Statistics Canada, *Provincial Government Finance: Revenue and Expenditure*, Cat. No. 68-207 (Ottawa: Minister of Supply and Services Canada, various years).
3. Much of the background material contained in the sectoral profiles presented was adapted from a study prepared for this Commission. Interested readers are referred for further details to Bruce Wilkinson, "Canada's Resource Industries: A Survey", in *Canada's Resource Industries*, vol. 14, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).



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The Natural Resource Sectors

Agriculture

Profile

It is not easy to draw a profile of Canadian agriculture. The Canadian farmer is the Prairie wheat grower with over 1000 hectares of land, hundreds of thousands of dollars' worth of equipment, and annual sales of more than \$250 000; the Canadian farmer is also the small vegetable grower or orchard operator with 40 hectares and sales of a few tens of thousands of dollars. Agriculture varies almost as much within a given region of Canada as it varies from one region to another. What is common to Canadian agriculture in all of its forms, however, is the characteristic production unit, the family farm. The last Census indicates that in 1981, 87 per cent of the 318 000 farms in Canada were operated by sole proprietors and 9.3 per cent were partnerships. Fewer than one-half of 1 per cent were owned by corporations whose shares were not held by a single family. Two-thirds of operators (based on average farm size) owned all of the land they farmed. These figures were much the same in 1971. As Table 12-1 shows, the largest farms are in Saskatchewan and Alberta, and the smallest are in Newfoundland and central Canada.

In 1982, the agriculture sector contributed 3.3 per cent of Canada's gross domestic product (GDP); the figure was not much different in 1971. The importance of agriculture varies greatly from province to province. In 1982, agriculture's share of gross provincial product (GPP) was highest in Saskatchewan (15 per cent) and Prince Edward Island (10 per cent) and lowest in Newfoundland (less than 1 per cent). During the 1970s, agriculture grew in relative importance in Prince Edward Island, and to a lesser extent, in British Columbia, but declined in nearly all other provinces.¹ Agriculture remains the economic basis of many rural communities all across Canada which serve as supply, service and distribution centres for the industry.

Primary agriculture currently employs 476 000 people, a figure that represents less than 5 per cent of total national employment. The agri-food system as a whole, however, employs 1.45 million Canadians and accounts for 15 per cent of total employment. For example, the food-processing and beverage industries employ 255 000 people, the food service industry employs 359 000, and food stores currently employ 221 000. A number of other important industries, such as rail and water transportation, depend to a significant extent on the agri-food sector.

Figure 12-1 summarizes the commodity composition of Canadian agriculture in 1984. Grains and oil-seeds together accounted for over one-third of total farm cash receipts of \$20 billion. Cattle and dairy receipts made up a second third. The other important commodities are fruits and vegetables, hogs, and poultry and eggs. Production of grains, especially wheat, and oil-seeds is concentrated in the Prairie provinces, while corn production is concentrated in Ontario and Quebec. Soybeans are grown only in Ontario, dairy production is highest in Ontario and Quebec, and fruits and vegetables are grown chiefly in southern Ontario, the Fraser and Okanagan valleys of British Columbia, and Nova Scotia. Prince Edward Island and New Brunswick are important potato producers, Alberta and Ontario are important producers of beef, and Quebec and Ontario produce significant quantities of pork. (See Table 12-1.) Ontario is Canada's premier agricultural province, with an annual value of farm output of about \$5 billion. Saskatchewan, Alberta, and Quebec, in that order, are the next-largest producing provinces by value.

Canada is self-sufficient in many agricultural sub-sectors: grains, oil-seeds (except soybeans), most dairy products, potatoes, and livestock and meat products (except lamb). There is, however, as Table 12-2 shows, a substantial trade deficit in fruits and vegetables. This deficit is partly the result of an increase in demand of 11 per cent per year, on average, over the past decade for products not grown in Canada; these include citrus and tropical fruits, coffee, and cocoa. But it is also the result of an 8-per cent average annual increase in imports of products that are grown in Canada. For all non-tropical fresh fruits and vegetables, the import share is two-thirds of Canadian consumption.

The bulk of Canada's output of all agricultural commodities, except grains and oil-seeds, is absorbed by our domestic market. The net trade balance on grain amounted to \$4.8 billion in 1983. That year, Canada enjoyed a net surplus in all agricultural trade of \$3.7 billion. The agricultural sector was thus responsible for more than one-quarter of our country's total trade surplus in all commodities. (See Table 12-2.)

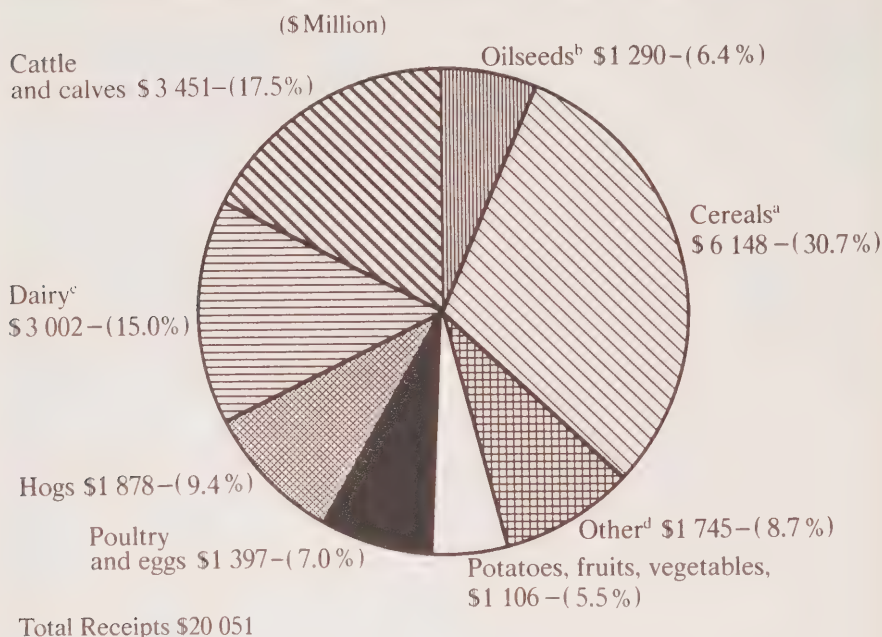
Canada's share of the world market in grains and oil-seeds declined somewhat during the late 1970s. The decline was a function of reduced production, bottlenecks in the grain-transportation system, and concentration on traditional but relatively slow-growing markets in the developed world. The use of export subsidies and aggressive marketing techniques by competitor countries also challenged our position. Canadian grain exports have rebounded during the 1980s, thanks, in part, to improvements in the Canadian grain-handling system. However, a more important factor in the

TABLE 12-1 Structure of Agriculture by Province

Province	Number of Farms	Average Farm Size (hectares)	Farm Cash Receipts 1984 (million \$)	Top Three Commodities by Value of Farm Cash Receipts		
Newfoundland	679	49	40.9	Poultry and eggs	Dairy	Hogs
Prince Edward Island	3 154	90	186.7	Fruit and vegetables	Dairy	Cattle
Nova Scotia	5 045	92	261.2	Dairy	Poultry and eggs	Fruit and vegetables
New Brunswick	4 063	108	229.4	Fruit and vegetables	Dairy	Poultry and eggs
Quebec	48 144	79	3 073.2	Dairy	Hogs	Cattle
Ontario	82 448	73	5 284.3	Cattle	Dairy	Small grains (excluding wheat)
Manitoba	29 442	263	1 926.4	Wheat	Cattle	Small grains
Saskatchewan	67 318	394	4 221.2	Wheat	Cattle	Small grains
Alberta	58 056	348	3 863.8	Cattle	Wheat	Small grains
British Columbia	20 016	123	964.5	Dairy	Fruit and vegetables	Poultry and eggs
Canada	318 361	214	20 051.6	Wheat	Cattle	Dairy

Sources: Canada, Agriculture Canada, *Handbook of Selected Agricultural Statistics 1984* (Ottawa: Minister of Supply and Services Canada, 1984); and Statistics Canada, *Farm Cash Receipts* (December 1984), Cat. No. 21-001 (Ottawa: Minister of Supply and Services Canada, 1985).

FIGURE 12-1 Canada's Farm Cash Receipts by Major Category, 1984



a. Includes wheat, oats, barley, rye, corn, Western Grain Stabilization Payments, Canada Wheat Board Payments, crop insurance payments, Canada Wheat Board cash advances and liquidation of deferred grain receipts; minus Canada Wheat Board Cash Advance Repayments and deferred grain receipts.

b. Includes flaxseed, canola and soybeans.

c. Includes dairy supplementary payments.

d. Includes sheep and lambs, wool, honey, fur farming, miscellaneous livestock, forest and maple products, provincial income stabilization program, deficiency payments, supplementary payments, floriculture and nursery, tobacco, mustard seed, sunflower seed, clover and grass seed, hay and clover, dry beans, dry peas, miscellaneous crops, net non grain cash advances.

e. Addends do not sum to exactly this total because of rounding.

Source: Statistics Canada, *Farm Cash Receipts*, No. 21-001, February, 1985, (Ottawa: Minister of Supply and Services Canada, 1985).

growth of exports has been increased sales to the centrally planned economies, which now account for over 50 per cent of our wheat exports and 35 per cent of our barley exports. Because of the European Community's (EC) common agricultural policy (CAP), exports to Europe and the United Kingdom have declined.

In 1982, Canada's production of wheat, amounting to 27 million tonnes, was exceeded by only four other nations: the Soviet Union, the United States, China, and India. Canadian wheat exports currently account for approximately 22 per cent of world trade, but other nations have lately emerged as significant competitors. The EC, for example, has increased its world-market

TABLE 12-2 Net Trade Balance For Agricultural Commodity Groups

	(millions of constant 1981 \$)				
	1971-75 (average)	1976-80 (average)	1981	1982	1983
Grain and grain products	3 478	3 706	4 827	4 796	4 813
Oil-seeds and oil-seed products	272	331	498	332	312
Animal feeds	102	128	136	123	150
Animals, meat and other animal products	14	241	400	728	558
Dairy products	30	39	115	162	118
Poultry and eggs	(9)	(46)	(17)	(30)	(33)
Fruits and vegetables	(1 036)	(1 408)	(1 487)	(1 388)	(1 319)
Other	(1 125)	(1 398)	(1 299)	(872)	(844)
Total agricultural commodities	1 726	1 594	3 173	3 851	3 715
All commodities	1 029	2 424	1 855	12 665	11 108

Sources: Canada, Agriculture Canada, *Handbook of Selected Agricultural Statistics 1984* (Ottawa: Minister of Supply and Services Canada, 1984); and R. Daviault, *Selected Agricultural Statistics for Canada* (Ottawa: Agriculture Canada, Economics Branch, 1976).

share for wheat from 8 per cent in the early 1970s to nearly 16 per cent in recent years; France alone currently accounts for more than 10 per cent of world wheat exports.

Although Canada is still the world's largest producer of barley (14 million tonnes in 1982-83), our share of world exports has declined over the last decade from about 27 per cent to 23 per cent. Meanwhile, the Community's share of exports has risen from 45 per cent to 52 per cent. Oil-seeds, particularly canola, have become an important Canadian export (2 million tonnes in 1981-82). Canola accounts for about 7 per cent of total world oil-seed output, while soybeans constitute over one-half of world oil-seed output. Canada's position as the world's largest producer of canola has recently been taken over by China: our share of world production declined from about one-third in 1979 to one-sixth in 1982-83.

Canadian exports of live animals, beef, and pork are also significant. The United States is still Canada's major market: Americans buy 70 per cent of our pork exports and 90 per cent of our beef exports. Since 1970, Japan has become increasingly important as a market for Canadian meat, especially for pork. Exports to Japan fluctuate considerably, and therefore various provincial hog-marketing boards and private processors have been attempting to develop exports to Japan through long-term contracts.

Prospects

Global Projections

Global projections of future prospects for agricultural production vary with the assumptions made about population growth, increases in productive capacity, income and price elasticities of demand, and the agricultural and

commercial policies of both importing and exporting nations. The *Global 2000* report to the President of the United States, the United Nations Food and Agriculture Organization's (FAO) *Agriculture: Toward 2000*, and other reports conclude that developing countries will continue to accept large increases in agricultural imports over the next few decades, provided that they can finance them. According to the FAO's projections, agricultural imports by developing nations will grow at a rate of 3.8 per cent annually to 2000; the average annual rate of increase between 1961 and 1980 was 5.7 per cent.² It is expected that the centrally planned economies will depend even more heavily on grain imports, although the change will be slower than it has been in the past.³ The Soviet Union's grain imports are expected to level out. Various studies indicate that by 2000, North America will be the largest available source of imported cereals and oil-seeds for the developing world.

Table 12-3 shows recent projections of growth rates of world consumption and production to 2000 and 2020 for the major agricultural commodity groups. For cereals, the 1.8 per cent expansion rate to 2000 represents a considerable decline from the 2.6 per cent annual growth rate of the 1970s. The projected 2.1 per cent growth rate for oil-seeds is about one-half the rate of the 1970s. For the period from 2000 to 2020, the expected rates of growth are lower again. It is expected that most of the twenty-first/century increases must come from improved yields, rather than from increased land use.

Opinions vary about price projections of agricultural products, and recent projections tend to be more conservative than those made a few years ago. Some observers foresee growing scarcities of food and a concomitant rise in real food prices. The *Global 2000* report and the subsequent Canadian "Agri-food Strategy" predicted that real food prices would rise by about 1 to 2 per cent per year to 2000.⁴ Other observers suggest that real prices for grains could continue their historical decline.⁵ More recent predictions by Agriculture Canada foresee that real prices will remain much as they are or, possibly, will decline by up to 1 per cent per year to 2000.⁶ The most certain prospect is that price instability will be common, as it has been in the past.

**TABLE 12-3 Projections of World Production and Consumption,
1980 to the Years 2000 and 2020**

Products	(annual compound percentage growth rates)	
	1980-2000	2000-2020
Cereals	1.8	1.4
Oil-seeds	2.1	1.9
Meats	2.4	2.0
Milk products	1.5	1.1

Source: Kenneth R. Farrell, Fred H. Sanderson, Trang T. Vo, and Michael F. Brewer, "Meeting Future Needs for United States Food, Fiber and Forest Products", in Joint Council on Food and Agricultural Sciences, *Reference Document: Needs Assessment for Food and Agricultural Sciences* (Washington, D.C., 1984).

Projections for Canada

How will these projected global developments affect Canadian agricultural prospects in international markets? Commissioners heard a variety of views on this question. The Alberta Wheat Pool, for example, was cautiously optimistic:

In the case of the prairie provinces: a) The outlook for increasing volumes of grain exports continues to be bright. b) The outlook for meat product exports is modest. c) The prospects for vegetable oil exports are promising in the long run, though undefined in this decade.

Considering these circumstances, it is clear that Canada must maintain a viable economic climate for the production, handling and exporting of grain. Steps should be taken to protect the infrastructure now in place which will permit western Canada to be an effective world trader in vegetable oils. The future of livestock feeding, meat processing and exporting deserves immediate and special study in order to determine a recommended course of action from a national standpoint.

(Alberta Wheat Pool, Brief, October 24, 1983, p. 6.)

The Christian Farmers Federation of Ontario (CFFO) expressed a much more pessimistic view:

The CFFO does not share the optimism of the Federal government's agri-food strategy: Challenge for Growth, published in July 1981. We see around us mounting difficulties such as soil degradation, the industrialization of agriculture, erratic international markets and deteriorating food quality.

We do not expect major increases in our agri-food production because of the limits of our foodland resource, the growing cost of our technology, and the disturbing side-effects of many of our current farm practices.

Exports are an increasingly unreliable solution to Canadian food marketing problems. Export markets are becoming more unstable and are often dependent upon some form of export subsidy . . .

A Canadian strategy should be based on import replacement, resource stewardship, a family farm structure and nutritional improvements.

(Christian Farmers Federation of Ontario, Brief, December 6, 1983, p. 2.)

Projections of annual growth of global grains trade to 1990 and 2000 vary between 1.2 per cent and 5 per cent: a wide range indeed! Whatever projection proves correct, it appears that grain exports will not expand as rapidly in the 1980s as they did between 1960 and 1980.⁷ The Canadian Wheat Board anticipates, as Table 12-4 records, that Canadian grain and oil-seed exports will expand to 37 million tonnes annually by 1990. This projection appears to be not unreasonable: in 1983-84, exports of wheat alone already amounted to nearly 22 million tonnes, less than 1 million tonnes short of the 1990 target, and these levels were reached even though much of the world was experiencing a recession. Nevertheless, to achieve the exports projected to 2000 will require a substantial effort to bring new land under cultivation, reduce the land presently put into summerfallow, and improve yields.⁸

Grain and oil-seeds projections to the year 2000 are more tentative. The expansion of wheat exports to 44 million tonnes, projected by Agriculture

TABLE 12-4 Canadian Grain and Oil-seeds Exports, Actual and Projected

	(millions of tonnes)			
	Actual 1978-79 ^a	Actual 1983-84	Projected 1990 ^b	Projected 2000 ^c
Wheat	13.0	21.8	22.0	44
Coarse grains	4.1	6.8	8.5	12
Oil-seeds	2.8	2.1	6.5	N.A.

Sources: Historical numbers: Statistics Canada, *Cereals and Oilseeds Review* (Ottawa: Minister of Supply and Services Canada, 1984); and W.E. Jarvis, "Market Demand and Production Requirements for Prairie Grain", in Canadian Wheat Board, Advisory Committee, Prairie Production Symposium, October 1980; and Stewart Borland and Gerald Robertson, "A Sectoral View of the Longer-Term: Agriculture", in *Long-term Economic Prospects for Canada: A Symposium*, vol. 23, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).

Note: N.A. = not available.

a. Exports at the time the 1990 projection was initially set.

b. 1990: Jarvis.

c. 2000: Borland and Robertson.

Canada, implies an annual growth rate from 1990 to 2000 of 7.5 per cent. The estimate for barley assumes a more modest growth rate of 3.5 per cent. Such exports, even at current nominal prices, would mean an increase of 70 per cent by the turn of the century over 1983 levels in the value of these agricultural exports.

In general, future growth in agricultural trade surpluses will occur in the traditional wheat and course grain sector, and to a lesser extent, in the canola and red meats sectors. We can expect to import increasing amounts of fruit and vegetables, and to face serious competition in pork, poultry, and eggs. In order to take advantage of the opportunities – or to beat the competition – we must improve the performance of Canadian agriculture. In spite of Canada's past success as a producer and exporter of agricultural commodities, there is some reason to be apprehensive about our ability to meet these challenges adequately.

Issues and Recommendations

The Future of the Family Farm

The family farm is at one and the same time an economic unit and a social unit. It is together a business, generating a family income and a life style generating human qualities of individual initiative, co-operation and leadership . . . It is a farm in which the decisions regarding production and marketing are made by the family which operates the farm. The household is the centre of the farming operation, providing the bulk of the labour, making the farm decisions and interacting with the community.

(Family Farm Foundation of Canada, Brief, October 24, 1983, p. 2.)

The traumatic economic events of the 1980s have increased Canadians' concern about the continued viability of the traditional production unit, the family farm. The Family Farm Foundation described the dimensions of the problem:

Family farms have [proved] themselves extremely efficient producers of agricultural products. Despite weather, changing technology, economic stress ranging from poverty to prosperity, the family farm has stood the test of time over 80 years and indeed has led the way in many, many areas.

Today, the family farm is being threatened. Inflation, the price of farm inputs, high interest rates, [and] falling commodity prices . . . are placing serious economic and social strains on the family farm. The family farm deserves protection, both as a family unit and as an economic unit.

(Family Farm Foundation of Canada,
Transcript, Regina, November 23, 1983 [vol. 50], p. 10325.)

It is clear that farmers are currently experiencing economic difficulties. Farmers' net income as a percentage of their gross income fell from 30 per cent in 1972 to less than 20 per cent in 1982. Statistics Canada's index of prices of total farm-input costs rose by 76.5 per cent between 1976 and 1983, while its index of prices for all farm products rose by only 47.5 per cent. Since 1981, a weighted index of farm-product prices has actually fallen, while input costs have continued to rise.⁹ For the last 30 years, in fact, productivity gains in agriculture have largely been captured by consumers, who have been able to meet their food needs with a decreasing proportion of their incomes. As a proportion of income, the food bill of the average Canadian is the second-lowest in the world; only American consumers pay less.

Agriculture is a notoriously cyclical industry. Prices for most products are set in world markets, and they are susceptible to myriad climatic and political influences beyond the producers' control. Moreover, it is difficult for farmers to make rapid adjustments in production. On the other hand, input costs—with the exception of costs for land and, recently, for fuels and fertilizers—have risen more or less continuously. The result of this fluctuation in revenues and the continuous increase in costs is a highly variable income stream. While the boom in commodity prices in the 1970s raised farm income to record levels, the price declines and cost increases of more recent years have severely eroded these gains.

There is an additional element in the "boom-bust" cycle of agriculture. High incomes tend to become quickly capitalized into higher land values. Consequently, established farmers who add to their landholdings and farmers who are starting out incur large debts. If interest rates are high as well, the burden of debt becomes even more onerous. Net revenues will decline, but the carrying charges on acquisitions of land (and on any machinery purchased to farm it) will continue.

The number of Canada's farm bankruptcies tripled between 1979 and 1982, although in proportionate terms the number is still small, standing at 0.13 per cent of all farms in 1982. However, bankruptcy rates are not necessarily a good indication of the financial health of farming, since many farmers "voluntarily" liquidate their assets before the bankruptcy stage, and

many others struggle with severe cash-flow problems. A study released by the Farm Credit Corporation in October 1984 stated that 39 000 or 17 per cent of Canadian farmers were under severe financial stress.¹⁰

Canadian farmers have consistently proved themselves to be among the best in the world at adopting new technologies and new methods, and this Commission sees no reason to doubt that they will maintain this record in the future. The problem is how to keep the financial erosion of family farms to a minimum, in the face of the worst agricultural recession since the 1930s. Canada's productive farmland is a national asset of great value, and it should be passed on intact to future generations. The survival of the Canadian family farm is also justified on grounds of regional equity, since single-proprietor agriculture is the economic mainstay and social basis of much of non-urban Canada. While the scope for massive movement off the farm is far more limited today, it nevertheless remains true that cyclically induced departures, based on financial losses, are socially disruptive. Moreover, it can be argued—although Commissioners have seen little evidence on this point—that support for the family farm is warranted on general economic grounds: that is, on the grounds that an owner/operator can be expected to husband his resources better and to use less energy and fewer chemical fertilizers than the operators of a corporate farm.

How should we Canadians support our agriculture sector? The sections that follow set out recommendations for much larger research and development (R&D) expenditures, to be funded in part by producers, and an aggressive international trade policy. In this present section, Commissioners wish to draw attention to other problems that invite government attention: the problem of farmers' limited access to capital markets and the closely related question of intergenerational land transfers.

The viability of the single-owner farm depends more and more on the farmer's ability to expand his hectarage and to engage in capital-intensive production. As farmers' capital requirements grow, they become less able to meet them out of the returns to their own equity and more and more dependent on access to capital markets. Relative to other businesses, however, farm enterprises are generally at a disadvantage in capital markets since the variability of the weather compounds the uncertainties of the farmers' business cycle. Because farming is generally a riskier undertaking than other business ventures, operators of non-farm businesses can usually obtain bank financing more easily than farmers. In recent years, for instance, banks have been unwilling to provide long-term farm loans at fixed rates of interest. The advantage that other businesses enjoy in capital markets contributes to their ability to buy agricultural land—for industrial-park development, for example—at prices that are unrelated to the price of agricultural land, making it ever more difficult for the family farmer to compete for land resources.

There are, however, several programs, both federal and provincial, aimed at increasing small farmers' access to financial markets. Among them are subsidized credit schemes such as the Special Farm Financial Assistance Program (SFFAP) of the federally funded Farm Credit Corporation (FCC), the Saskatchewan Farm Purchase Program (FPP), and Ontario's Beginning

Farmer Assistance Program (BFAP). Before the mid-1970s, the FCC was the major source of fixed-rate long-term funding for land acquisition and the purchase of capital equipment. Over the past decade, however, much of this lending has shifted to the private banking sector at floating rates.

A variant of the capital-access problem arises when farmers wish to transfer farm property to their offspring. Typically, the assets represented by land, buildings and machinery are the only provision farmers have been able to make towards retirement. Regrettably, farmers' children may find it impossible to raise the funds necessary to buy out their parents and keep the farm in the family.

In view of these problems, Commissioners support the maintenance of effective special credit arrangements for farmers, but the special schemes should not subsidize the sector by providing access to capital at less than market rates. Indeed, we do not believe that policies should be designed specifically to keep marginal operations permanently in business. Nevertheless, the design of special credit arrangements should take into account the unusual features of agriculture: its volatility, its lack of access to equity capital, and the need to transfer ownership intergenerationally. The specifics of any such policies can be left to the experts. We wish only to endorse the general point that special programs are necessary and to urge constructive action by governments and farm groups.

Land Supply and Quality

Many participants in this Commission's consultation process put forward the view that Canada faces potentially serious problems in maintaining its supply of productive agricultural land:

Even in the recent past Canada's legislators and the Canadian public believed that Canada has almost inexhaustible supplies of land for farming. Also, they were convinced that improved agricultural technology and its application would ensure the availability of farmland forever.

These misconceptions have created a misleading impression of abundance and have resulted in land use practices which are precipitating some major concerns . . . (Agricultural Institute of Canada, Brief, November 29, 1983, p. 5.)

Soil salinity affects an estimated 5.4 million acres (2.2 million hectares) or 4.1 percent of the cultivated and range land on the prairies. Conservative estimates put the monetary losses resulting from salinization at \$29 million annually and this will increase to \$465 million by the end of the century.

(Canadian Organic Producers Marketing Cooperative Limited, Brief, November 3, 1983, p. 8.)

Subtle deterioration of the inherent productivity of prairie farmland is also of great concern. In the eight decades since cultivation began, the humus content of the Prairie soils has decreased by nearly 50%.

(Lethbridge Research Station, Brief, October 31, 1983, p. 4.)

Nor did intervenors limit their attention to soil quality. They also expressed concern about the conversion of rural land—often land of high agricultural capability—to urban uses:

We are shocked at the disappearance of much of Canada's agricultural heartlands as cities like Toronto, St. Catharines, Winnipeg, Regina and others expand. We wonder at the wisdom of continued expansion of major cities, especially those surrounded by prime farmland.

(Thompson Industrial Commission, Brief, October 6, 1983, p. 6.)

Industrial development centred around large urban communities, coupled with urban sprawl, has already gobbled up much of the best agricultural land in Canada, as in other countries . . . If this trend is not controlled, millions more acres of the most productive farm land in this country will be covered with concrete and lost as a food resource base for future generations.

(National Farmers Union, Brief, November 21, 1983, p. 22.)

Are these concerns justified? During the 1960s and 1970s, the federal government and the provinces carried out a detailed inventory of Canada's land resources.¹¹ According to this inventory, only 11 per cent of Canada's land is capable of sustaining agriculture of any kind, less than 5 per cent is capable of producing crops, and less than 0.5 per cent is valuable class-one land capable of sustaining the whole range of Canadian crops. Although Canada is the second-largest country on earth, the amount of Canadian land available for crop production of any kind is approximately equal to the area of Sweden. Canada's whole stock of class-one agricultural land is smaller than the area of New Brunswick. For obvious historical reasons, most of the best agricultural land in Canada is located near our largest cities: 37 per cent of Canada's class-one agricultural land and 25 per cent of our class-two land can be seen from the top of Toronto's CN tower.

A federal government study of urban centres with populations greater than 25 000 documents the quantity and quality of land converted to direct urban use between 1966 and 1976.¹² During this decade, rural lands equal in area to the city of Hamilton were built over. Of all the rural land converted to urban uses, 63 per cent was rated in the top three classes for agriculture. In Ontario, 79 per cent of the rural land converted to urban uses was prime farmland. In Manitoba, the figure was 91 per cent; in Prince Edward Island, it was 99 per cent.¹³

The pursuit of leisure and recreation imposes further demands on land resources. Recent years have seen an explosion in demand for campgrounds, cottage sites, highway picnic sites, ski trails, parklands. Car graveyards, race tracks, gravel pits and quarries, and other urban-related undertakings take an additional toll of rural lands. Once farmland is appropriated for urban or urban-related use, it seldom reverts to agriculture.

The continued loss of farm land to urbanization has important implications for Canada's production potential. In considering this loss, we must be chary in taking comfort from the increases in total hectareage that come from improving land. There is no benefit in replacing land that can grow fruits, vegetables and corn with land suitable only for barley or hay. In areas such as the Golden Horseshoe, between Toronto and St. Catharines, and the Okanagan Valley of British Columbia, one-third of improved farmland has been converted to other uses in the last 25 years.¹⁴ Some of the crops grown in

these areas, such as tender fruits and hybrid or vinifera grapes, cannot be produced commercially in any other part of Canada.

Commissioners support the call for a comprehensive study of the loss of prime farmland to urban development. How rapidly is this loss proceeding? Does it represent a failure of the private-land market? That is, are we ignoring important social considerations in tolerating a situation in which urban developers can consistently outbid farmers for agricultural land? Is a development freeze—a solution that has been tried in some jurisdictions—an adequate solution, or are there better avenues to try? Commissioners agree with the many intervenors who argued that we cannot put off much longer finding firm answers to these questions.

Most agronomists agree that the deterioration of Canadian soils threatens the expansion of our agricultural production. About one-third of the productivity of Canada's prairie soils has been lost since cultivation began, making them more susceptible to erosion. Excessive salinity results when unused water absorbs salts, moves down through the soil, and then seeps to the surface in other, lower areas. Salinity affects an estimated 2.7 to 4.0 per cent of all dryland in Western Canada and more than 20 per cent of irrigated hectarage, mostly in southern Alberta. The area affected by salinity is increasing by about 10 per cent annually. It is not known how much soil Canadian agriculture loses to wind and water erosion, but estimates are available for some localities. In the southern Prairies, for example, losses to wind erosion are substantial in dry years. Excess soil acidity, caused by the use of fertilizers (especially nitrogen) and by emissions from natural-gas/processing plants, thermal power plants, and smelters, now affects more than 2.5 million hectares in the Prairies; 70 per cent of the affected land is in Alberta.¹⁵ Significant topsoil losses have been recorded in Prince Edward Island (20 tonnes per hectare on potato land) and Ontario (as much as 50 tonnes per hectare on corn land). Sixty to 70 per cent of all sediments in the Great Lakes originate from agricultural land.¹⁶

The problems of soil deterioration are serious but not unmanageable, given a concerted effort to solve them. Initial research suggests that the problem of acid soils can be dealt with in a relatively straightforward manner, although more investigation is needed. As for salinity, one important cause of the problem is summerfallowing. This practice began primarily as a means of storing moisture in the soil for a year so that a better crop could be produced the following year. Yet summerfallowing retains only a relatively small percentage (7 to 14 per cent) of the year's precipitation for the following year's crop. The remainder passes down through the soil, often forming a salt seep elsewhere. Continuous cropping helps to absorb the excess moisture, reduces erosion, and, if an annual legume crop is included in the rotation, restores organic matter and nitrogen to the soil.

Even without improvements in farming technology, it appears that summerfallowing could be substantially reduced on at least 50 per cent of the total cultivated hectarage on the Prairies. Given additional research and a program of education designed to make farmers more aware of the long-term adverse effects of summerfallowing, it should be possible to improve on this

estimate. On the other hand, it may be unreasonable to expect many farmers to change their practices in the absence of improvement in the farm economy. No farmers set out to follow practices that will cause deterioration of their land, but financial restrictions may make it impossible for them to apply all available knowledge.

Marketing Boards

Agricultural marketing boards constitute a contentious subject. This became evident at this Commission's hearings:

Agricultural marketing boards which restrict the supply of agricultural output should be eliminated. (Campeau Corporation, Brief, November 24, 1983, p. 2.)

Marketing Boards of all descriptions should be discontinued. The point has been reached in Canada that because of government regulation there is so much distortion in the market place that no one knows what the true value is for many food items, commodities, or utilities. (Charles W. Houston, Brief, July 14, 1984, p. 3.)

Understandably, producers' organizations did not agree:

The Canadian Federation of Agriculture unequivocally supports . . . supply-management programs [for the poultry and milk industries]. They are necessary for the healthy survival of these sectors. They are extensively supervised in the public interest. They are productivity-increasing in their operations.

(Canadian Federation of Agriculture, Brief, September 22, 1983, p. 13.)

What effect do marketing boards have on agricultural performance? In order to answer this question, it is necessary to distinguish between agencies that control the supply of their product (eggs, chickens, turkeys, tobacco, and milk) and agencies that simply facilitate farmers' common marketing (of hogs, fruits and vegetables). With respect to the latter, the Economic Council of Canada has concluded that:

These boards have worked to the advantage of producers, who are now able to secure a fair return formerly denied them because of their insufficient bargaining power. To the extent that markets function better, that additional detailed information is provided, and that quality is controlled, both the consumer and the producer benefit. No doubt, as in the case of other institutions, the operation of the boards could be improved. Nevertheless, the Council endorses their activities and sees no need for radical changes in their mandates.¹⁷

For boards with supply-management capabilities, the evidence is very different. Numerous studies have demonstrated that such marketing boards insulate domestic producers from foreign competition, often to the point of eliminating foreign supplies altogether. They also reduce interprovincial trade in agricultural commodities, with the frequent result that these commodities are not produced in the provinces that can produce them at the lowest cost. Finally, supply-management marketing boards raise the prices of agricultural products above the level that might be achieved in a market where common marketing took place, but supply control did not.

There are several studies that attempt to estimate the extent of the excess return extracted from consumers by supply-management marketing boards.¹⁸ One study sets the annual excess payments at \$56 million for eggs, \$97 million for broilers, and \$33 million for turkeys.¹⁹ Another study sets the annual excess payments for fluid and industrial milk at \$366 million and \$629 million respectively.²⁰ These excess payments show up as quota values, which are essentially payments for the right to produce. One study estimates that the value of quota for five commodities—milk, eggs, broiler chickens, turkeys, and tobacco—increased by more than 33 per cent in the two-year period from 1978 to 1980.²¹

The supply-management marketing boards do not extract these excess returns without imposing an efficiency loss on the Canadian economy. The loss can take a number of forms, but most studies restrict their estimates to the surplus forgone as a result of diminished consumption and the cost of replacing foreign suppliers by Canadian suppliers. These studies find that of each dollar transferred from consumers to farmers, approximately 25 cents is wasted. A study of egg marketing in British Columbia attempted to estimate the value of every type of waste induced by the egg-marketing board.²² It concluded that it costs \$3.3 million annually in lost output to transfer \$5.3 million to B.C. egg producers; this sum represented an efficiency loss of 60 cents per dollar transferred. Still other studies calculate that it may cost as much as \$3 to transfer one dollar from consumers to farmers.²³

In sum, by restricting foreign and domestic supply, supply-management marketing boards raise the prices of agricultural commodities and thus augment farm incomes. They appear to accomplish this, however, at a significant efficiency cost to the Canadian economy as a whole. Nor do they benefit all producers equally. They bring very little benefit to new farmers, who must buy their quota. Indeed, it may be that few of the beneficiaries of marketing boards are still on the land; many have sold their quota and retired. Again, Commissioners would repeat that these criticisms are levelled at national supply-management marketing boards controlling the supply of agricultural products such as eggs, chickens, turkeys, tobacco and milk; we are not criticizing those marketing boards which do not restrict supply, many of which operate at the provincial level.

Commissioners assume that in general, Canadians support the goal of augmenting and stabilizing farm incomes. Nevertheless, national supply-management marketing boards represent an expensive way to meet a perfectly acceptable social goal. One alternative would be a scheme that reduced the extent of income fluctuations experienced by the producers, instead of supporting their level of income, as such marketing boards do. Unlike the boards' methods, an income-stabilization scheme would smooth out market risks without generating efficiency losses. The Western Grain Stabilization Act and the Agricultural Stabilization Act might serve as models for a program of this kind. This Commission recommends that the federal government, the provinces, farm groups and consumer associations commit themselves to the task of designing and implementing other possibilities such as an income stabilization scheme. We further recommend that Canada move gradually to phase out supply-management marketing boards.

Pending replacement of marketing boards by an alternative scheme, Commissioners recommend that such boards be made more flexible and accountable. Specifically, we suggest that governments exercise caution in authorizing additional supply-management boards; that existing boards increase their production quotas so that quota values fall to more reasonable levels; that quantitative import restrictions be used only as a last resort; that quota be freely transferable between individuals (that is, not tied to farms) and across provinces; and that consumer groups be more adequately represented on the boards.

The Western Grains Economy

Grain Handling and Transportation. If Western grain producers are to retain their share of world markets, there must be improvement in the grading, handling, storing, and transporting of grain. Some adjustments have been made, and there have been a few very modest changes in the grading system. By and large, however, the rate of improvement has been glacial. The country elevator system is much what it was before the First World War. Nearly two decades ago, a recommendation was made that the number of grades of grain be reduced, a step that would have reduced the number of separate storage bins in country elevators and speeded up the filling of hopper cars. A freeing-up of elevator-bin space would have given farmers an opportunity to grow and sell other products through the elevator system. The recommendation is still valid today, indeed, it was reiterated in a major study by the Canada Grains Council in 1982.²⁴ As yet, major changes have not been forthcoming.

Another source of inefficiency in the grain-handling system is the practice of charging farmers, rather than the grain-handling companies, for leakages of grain that occur between the producer and the final sale at the terminal or the shipping port. This custom lessens the incentive to reduce shrinkage. In short, there is much that could be done to reduce the costs per tonne of grading and mixing grain and of moving grain from farmers' fields to ocean-going ships. Steps should also be taken to increase the system's efficiency in coping with greater farm output. For all of these purposes, substantial new investment and major technical innovations in the handling of grain will be necessary, both before rail transport and during rail transportation itself.

The Statutory Grains Freight Rate (the Crow Rate) is, of course, another very important factor in the efficiency of grain handling and marketing. During our hearings, Commissioners heard both vigorous defences of the historic Crow Rate and just as vigorous condemnations.

The matters at issue in the Crow Rate debate have been discussed extensively in recent years. For a variety of complex historical and political reasons, the rail-freight rates for grain shipments in effect at the beginning of the 1980s were the rates that had been in effect in 1897. This arrangement had two important implications for the Western grains economy and, by extension, for the Canadian economy as a whole. First, since railway costs had obviously increased significantly since 1897, the revenues derived from hauling grain were not compensatory. The predictable result was that the

railways had ceased to invest in rail lines and infrastructure for the export grain trade. No new lines were being built, and existing ones were deteriorating. Planned increases in grain shipments were impossible; even more worrying was the fact that existing export levels were threatened.

The other result was a distortion in the relationship between the costs of shipping grain and the costs of shipping grain products and animal products out of the Western provinces. Since freight rates for grain exports were artificially low, while those for grain and animal products were set in the market-place, there was less processing, feedlot, and meat-packing activity in the Prairies than there might have been if all rates had been set on the same basis.

The solution to the problem of deteriorating infrastructure was clear: the railway companies had to be induced to upgrade existing rail facilities and to invest in new ones. This inducement could take one of two forms. The companies could be given direct subsidies, which might, perhaps, be linked to performance guarantees. Alternatively, rail rates could be allowed to move to compensatory levels, so that the railways would receive the normal return from investing their own funds in infrastructure improvement. Each solution had its advantages and disadvantages, but basically, either solution would stimulate the necessary investment. If direct subsidies were paid, however, rail rates would stay at their existing level and the disincentive to locate grain-processing and meat-processing facilities in Western Canada would remain. If rates were allowed to rise to compensatory levels, this disincentive would disappear, and interregional comparative advantage would dictate the location of processing activities.

The problem was further complicated by equity issues. If the government subsidized the railways directly, Canadians in general would pay for rail-line investments. If rates were to rise to compensatory levels, Western farmers would pay the costs. To many Western Canadians, the latter solution represented an abrogation of a fundamental historical concession, which they had received in return for the costs imposed on them by the other features of the National Policy. Since the federal government seems to have accepted from the beginning that the Western grain producers were entitled to a continuation of an historical "Crow Benefit", the issue became: to whom and how should that continuing benefit be paid?

It was not just Western farmers who were interested in the outcome of the Crow Rate debate. The subsidization of Western grain farmers was a contentious issue in other parts of the country, particularly in Quebec, but sentiment outside the West was not altogether hostile to the Crow Rate. As Commissioners were told at our hearings in the fall of 1983, at the height of the Crow Rate debate in Parliament,

The death of the Crow would have serious consequences for the Maritimes. If the Crow goes, it would be a matter of a short time before the Maritime and Atlantic subsidies would be taken off. Primary producers in the Maritimes could not survive the extra costs of transporting their product to the markets.

(National Farmers Union, Prince Edward Island, Brief, September 2, 1983, p. 10.)

Opinion outside the agriculture sector did not universally favour retention of the historic arrangement:

While our original attention was focused on the effect that these arbitrarily low freight rates might have on the movement of other commodities, such as lumber and pulp, we are now looking at the even more alarming prospect of the railways being unable to finance future capacity needs in the system. A crunch in the form of railway equipment shortages or rationing would eventually have impacts on the forest industry that would include losses of earnings, losses of jobs, as well as taxes and capital investment.

(Council of Forest Industries of British Columbia,
Transcript, Prince George, September 13, 1983 [vol. 7A], p. 1775.)

There were two choices for the federal government. It could transfer sufficient funds directly to the railways to cover the full cost of moving the grain to export positions, leaving freight rates at the 1897 levels. Alternatively, it could let rates rise to market levels and make the same subsidy payments directly to Western producers. Under either option, provision would have to be made for future cost increases.

In 1983, after considerable study and negotiation, the federal government passed legislation that payments of the Crow Benefit would go directly to the railways, in return for performance guarantees on infrastructure development. This position was favoured by a major part of the Western farming community. The federal government's decision to make payments to the railways rather than to the farmers was also determined, in part, by the fact that the feedlot industry in central Canada depends to a considerable extent on subsidized shipping rates for feed grains. The new scheme, however, would also permit freight rates to rise as railway costs rose. A complicated sharing formula was developed, a variety of safeguards were introduced, and provision was made to review the entire situation in a few years.

This compromise solution still leaves intact major distortions, both in the location of grain-processing industries and in the structure of the Western grains economy. As this Report is being written, the effectiveness of the new system is the subject of a thorough study initiated by the federal government under the chairmanship of Mr. Justice Gordon Hall of Manitoba.²⁵ In view of this ongoing review, this Commission does not recommend any specific formula. We do, however, support further adjustment on the payment of the Crow Benefit, as provided for in the Western Grains Transportation Act, in line with market principles and the need for flexibility, and the promotion of modernization and efficiency.

International Markets for Grains. Canada depends on relatively few buyers for its grain exports. The two largest buyers of Canadian wheat are the Soviet Union and China, both of which have rather unpredictable buying patterns.²⁶ If Soviet agriculture were reorganized, the country's imports might decline substantially. Projections suggest that annual imports of grain into the Soviet Union and Eastern Europe will decline substantially to the year 2000.²⁷ Similarly, if China continues to improve incentives to its farmers, its demand for Canadian grain could decline or shift from wheat to feedgrains. Indeed, China is now an exporter of wheat.

It is obvious that Canada should diversify its markets for grains, especially wheat. Diversification will require a shift in the mix of wheat produced in Canada. Canada's main wheat crops are hard spring-wheat varieties. Some nations, such as Japan and the United Kingdom, demand this kind of wheat and are willing to pay a premium for it. Canada does have a special niche in these markets, but growth in demand for high-protein hard wheats is not anticipated. Demand is expanding, however, particularly in the developing world, for high-yield wheats of the "Triple-M" type.²⁸ Canadian exports of wheat to less-developed countries (LDCs), except China, are very small. Canada must develop production of these kinds of wheats if we are to share in this expanding market.

Before the 1980s, uncertainties in the world grain markets often led to a situation where Canada carried the burden of shortages and excess inventories. In recent years, the United States has carried that burden, as Canadian grain stocks have been minimal. Since 1971, major importing and exporting countries have lived under an International Wheat Agreement which has no economic provisions such as a buffer-stock provision or export-quota commitments. In 1979, the last attempt to renegotiate such economic provisions failed, and there is little reason to believe that member countries, particularly the United States, would come to an agreement in the short term. Nevertheless, a renewal of an International Wheat Agreement with economic provisions would be of general benefit to Canada, as well as to other major exporters and importers of grain because it would promote stability and market growth. Canada has generally supported such international undertakings and should continue to do so.

Commercial Policy

World agricultural policy is substantially interventionist. Most nations use a striking number and variety of tariff and non-tariff barriers (NTBs) to protect their farming communities, even when international treaties seem to preclude such measures. There is virtually no country that does not, as a matter of established policy, seek to preserve and expand its domestic agricultural base.

In most cases, Canadian agriculture can compete effectively with other producers anywhere in the world if it is allowed to compete on a fair basis. But Canadian farmers cannot, and must not be expected to, compete with farmers who are heavily subsidized by their governments or in markets where they face a wide range of tariff and non-tariff barriers. As the Canadian Food Processors Association stated to this Commission:

We are in a world market game which doesn't abide by the rules of GATT by any manner or means. Unless Canada is prepared to take the same actions as some of these other countries, we are going to be left out in left field.

(Transcript, Winnipeg, November 30, 1983 [vol. 54], p. 11486.)

Commissioners are loathe to recommend that Canada emulate its trading partners by increasing barriers to trade. It would, in our opinion, be better to work towards a true free-trade environment for agricultural products, especially given Canada's comparative advantage in many of these products and its status as a major exporter. Care should be taken, however, in any

trade negotiations dealing with farm products that Canada's special interests are met.

Fruits and Vegetables

Over the past decade or so, there has been a substantial increase in the per capita consumption by Canadians of fresh produce. A wide range of imported fruits and vegetables are directly competitive with domestic sources of supply. For heavily consumed items such as tomatoes, celery and lettuce, the foreign share is over 80 per cent. For tomatoes alone (excluding greenhouse production), the foreign share is 96 per cent. For all non-tropical fresh fruits and vegetables, the foreign share is well over 50 per cent. When potatoes are excluded from this total, the foreign share rises to nearly two-thirds of our domestic consumption of fresh produce.

At first glance, it might appear that Canadians have major opportunities for increasing the domestic share of fruit and vegetable sales. Canada has vast supplies of land and water. Moreover, horticultural production does not depend entirely on class-one land. The technology exists for large-scale greenhouse production and for proper storage of many basic fruits and vegetables to provide produce outside the usual field-crop season.

Yet any move to import-substitution will not be simple. Capital costs of field-crop production are substantial. Because our Canadian growing seasons are fairly short, suitable storage facilities would be essential to any expansion of domestic output in this sector. To undertake either a 100-hectare potato operation or to invest in a 50-hectare vegetable farm with the appropriate storage facilities involves an investment of about \$1 million, a capital intensity higher than that required for grain farming. Labour is cheaper both in the southern United States and in Mexico. There are obstacles to expansion of output on the marketing side as well. Canadian growers would have to break into supply channels of wholesalers (and accompanying retail chains) with long-established contacts in Florida, California, and Arizona. To do this, they would have to be able to provide guaranteed quantities and qualities of produce. On the other hand, some factors favour Canada over our competitors: lower outlays for insecticides because of the cooler climate; lower costs of transportation to market; the depreciated Canadian dollar; and cheaper water. This last factor will become especially important in the future.

While detailed costing studies are not available, there is some evidence that Canadian producers are not yet making the best of what appear to be expanding opportunities. Lack of attention to reliability of supply and, especially, to quality are frequently cited weaknesses in the practice of Canadian growers.²⁹ Nor do Canadian growers always make use of the latest developments in storage, even though some provincial governments have supportive loan programs. Canadian farms are too often small-scale operations. In recent years, however, Canadian growers have gained experience in using the most modern greenhouse technologies as well as hydroponics. In most provinces, too, there are commercial greenhouse operations using excess industrial heat. Nonetheless, in general, Canadians have not yet taken full advantage of these technologies in producing vegetables.

In summary, although there may be some cost advantages for producers in the southern United States over producers in Canada, there is potential for Canadian producers to expand. Provincial governments should encourage growers to practise more efficient methods and should work together to establish Canada-wide policies. Additional research to develop improved seed varieties, better insect and disease control, more efficient use of space, and new vegetable products could yield satisfactory returns to Canadian horticultural producers.

Research and Development

The need for enhanced research and development efforts was a theme common to many of the agricultural submissions Commissioners received. We were reminded, correctly, that it is scientific achievement rather than unaided nature that has made Canada a leading agricultural nation. Important social, as well as economic, benefits accrue from agricultural research:

Research and innovation are essential to future growth and competitiveness of agriculture and the food industries . . . Perhaps it is not sufficiently appreciated that it is publicly funded research that has made Canada a leading agricultural country in the world . . . Our failure to keep up, let alone lead, in this field would greatly undermine our long run competitive position.

(Ontario Federation of Agriculture, Brief, November 2, 1983, pp. 14-15.)

Agricultural research is one of the best investments the people of Canada can make. Net return on investment is estimated to be 40-50% per year, far higher than most commercial ventures.

(Lethbridge Research Station, Brief, October 31, 1983, p. 5.)

Between now and the year 2000, the federal government ought to increase the funds earmarked for research in agriculture. However, the producers would like to be involved, in order to contribute their views, and they are even prepared to contribute financially, taking into account, of course, their financial abilities. They are convinced that their participation would make for the better application of the research to the real need of agriculture to become more and more competitive.

(La fédération de l'UPA du Saguenay-Lac-St-Jean,
Brief, November 2, 1983, p. 22.)

Tragically, Canada has allowed its emphasis on such research to diminish, relative both to gross national product and to our competitors. Federal government outlays are now about one-half the proportion of GNP spent on agricultural research in the United States or Japan.³⁰

There can be no debate about Canada's need to increase its commitment to agricultural research and development, and to increase it at a rate that will allow us to catch up with our competitors. There can be no debate, either, about the necessity for government support. Individual producers, even producer groups, are simply too small and too widely dispersed to undertake sophisticated basic research. A check-off system, under which a levy of so many cents per unit of output would be assessed for research purposes, should certainly be considered wherever it is feasible. Producer groups might welcome such a system as a means of gaining some control over the ways in

which R&D dollars were being used. But ultimately it is governments, acting for Canada as a whole, that must make the commitment. Given returns to research as significant as they have been in the past, such a commitment would be a productive use of the nation's resources. Commissioners do not wish to make recommendations, beyond the ones we have already mentioned, about specific amounts or particular directions for this research effort. These questions are best left to the network of granting agencies, research scientists, and farm groups involved. In nearly every area we have surveyed, however, we see major opportunities for Canadian agriculture if new and better products are developed, or if improved production, handling, and marketing techniques are devised.

Conclusions

The potential exists for continued expansion of Canada's exports of grains, oil-seeds and red meats, but there are major uncertainties in world markets. Although some of these are not within Canadians' control, there are a number of steps that can be taken to enhance our competitive position. These include:

- Significant improvements in the production, handling and transportation of grains, supported by amendments to the Western Grains Transportation Act
- Making steady progress towards freer trade in this difficult area
- Supporting, over the longer term, a renewal of an International Wheat Agreement including economic provisions
- Greatly increasing public commitment to research and development
- Exploring alternatives, such as income stabilization, to national supply-management boards. Failing outright replacement, we urge substantial reforms of such marketing boards.

Steps must also be taken to ensure that Canadian farmland and the family farm are preserved into the next century. We recommend a careful study of the loss of prime farmland. We do not advocate farm-support programs which will keep marginal operations in business, but because of the special risk factors associated with farming, we support the retention of special credit arrangements for farmers.

Notes

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3. Kenneth R. Farrell, Fred H. Sanderson, Trang T. Vo, and Michael F. Brewer, "Meeting Future Needs for United States, Food, Fiber and Forest Products", in Joint Council on Food and Agricultural Sciences, *Reference Document: Needs Assessment for Food and Agricultural Sciences* (Washington, D.C., 1984); and

David Cole and S. Horton, "World Grain Trade and Its Financing: Past Patterns and Future Prospects", paper prepared for the Institute for Research on Public Policy, Montreal, 1983.

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5. See, for example, Terry Veeman and Michele Veeman, *The Future of Grain: Canada's Prospects for Grains, Oilseeds and Related Industries* (Ottawa: Canadian Institute for Economic Policy, 1984).
6. Stewart Borland and Gerald Robertson, "A Sectoral View of the Longer-Term: Agriculture", in *Long-Term Economic Prospects for Canada: A Symposium*, vol. 23, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
7. Based on models discussed in C.A. Carter, "International Trade Opportunities for Canadian Agriculture", paper presented at the Canadian Agricultural Economics and Farm Management Society 1984 Workshop, Ottawa, July 5, 1984. Models discussed were: International Wheat Council, "Long Term Grain Outlook", Secretariat Paper No. 14 (London, 1983); Australia, Department of Trade and Resources, "The World Food Economy in the 1980's" (Canberra, 1982); and Michigan State University, Department of Agricultural Economics, "Long Term Forecast" (East Lansing, 1982).
8. Veeman and Veeman, *The Future of Grain*.
9. Canada, Agriculture Canada, *Handbook of Selected Agricultural Statistics 1984* (Ottawa: Minister of Supply and Services Canada, 1984).
10. Canada, Farm Credit Corporation, Research Division, *Farm Survey* (Ottawa: Minister of Supply and Services Canada, 1984).
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12. C. Leigh Warren and Paul C. Rump, *The Urbanization of Rural Land in Canada, 1966-1971 and 1971-1976* (Ottawa: Environment Canada, Lands Directorate, 1981). In the 1971-75 study, comparisons are made with 1966-71 data from an earlier federal government study.
13. David M. Gierman, *Rural to Urban Land Conversion*, Occasional Paper No. 16, Lands Directorate, Environment Canada (Ottawa: Minister of Supply and Services Canada, 1977), pp. 48-49. As cited in Wendy L. Simpson-Lewis and Edward W. Manning, "Food for Thought: Can We Preserve Our Agricultural Land Resource?", *Alternatives* 10 (Spring-Summer 1981).
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15. P.B. Hoyt, M. Nyborg, D. Penny, and H. Ukrainetz, "A Degradation by Acidification", paper presented to the Alberta Soil Science Workshop, 1981.
16. The Honourable Eugene F. Whelan, Brief, November 24, 1983.
17. Economic Council of Canada, *Reforming Regulation* (Ottawa: Minister of Supply and Services Canada, 1981), p. 65.
18. These studies were surveyed and evaluated for the Commission by Wayne Thirsk, "Interprovincial Trade and the Welfare Effects of Marketing Boards", in *Perspectives on the Canadian Economic Union*, vol. 60 (Toronto: University of Toronto Press, 1985).
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24. Canada Grains Council, *Prospects for Prairie Grain Industry, 1990* (Winnipeg: The Council, 1982).
25. Committee of Inquiry on Crow Benefit Payment.
26. Borland and Robertson, "A Sectoral View of the Longer-Term".
27. For example, see Organisation for Economic Co-operation and Development, *Prospects for Soviet Agricultural Production and Trade* (Paris: OECD, 1983); and International Wheat Council, *Long Term Grain Outlook*, Secretariat Paper No. 14 (London: The Council, 1983).
28. Medium hard kernel, medium gluten strength, and medium protein content.
29. Ted Hole, "Production and Marketing of Fresh", and John Wiebe, "The Alberta Industry", in Alberta Agriculture, *Proceedings of Alberta Horticulture Conference, 1980* (Edmonton: The Department, 1980).
30. Veeman and Veeman, *The Future of Grain*.

Forestry

Profile

The forest-products sector, which embraces both logging and manufacturing, is a major component of the Canadian economy. In 1982, logging shipments amounted to \$4.0 billion, and shipments of paper and processed-wood products totalled \$22 billion. The forest industry accounted for 13.5 per cent of all manufacturing shipments and nearly 15 per cent of manufacturing value-added. In 1982, the sector employed 260 000 people, of whom about 40 000 worked at logging.

Although most of the provinces have important forestry activity, the industry is largely concentrated in British Columbia, Ontario, and Quebec. British Columbia produces about one-half the value-added in both the logging and the wood-products industries. Forest products account for half the value of British Columbia's manufacturing shipments, 60 per cent of the province's exports, and 10 per cent of its labour force. Ontario and Quebec account for nearly two-thirds of Canadian manufacture of pulp and paper.

Canada is a major player in the world market for forest products. In 1981, we accounted for 20.2 per cent of world exports (a slight decline since the mid-1960s); British Columbia's share alone amounted to 7.9 per cent. By comparison, the United States accounted for 12.7 per cent of world forestry product exports in that year.¹ Approximately half of total forest-industry shipments in Canada are exported, accounting for nearly 15 per cent of Canadian merchandise exports and making a major contribution to Canada's trade balance. The United States buys over 70 per cent of our exported forest products; Western Europe and Japan are Canada's other significant customers.

Table 12-5 summarizes changes over the last three decades in the relative importance of each major type of forest product export. Like the steep jump in the dollar value of our exports of forest products in the 1970s, the substantial decline, since 1950, in the relative importance of newsprint is of particular interest (although newsprint exports have increased in absolute terms over the same period). This shift is also evident in the figures for Canadian shares of world production and world exports, which are given in Tables 12-6 and 12-7. Canada's share of world newsprint production fell from 53 per cent in 1951-55 to 32 per cent in 1980-81. Although our share of world production of woodpulp also declined, we maintained our share of world exports. Our share of world lumber exports rose during the 1970s, from 37 per cent to 44 per cent; however, the latter figure represents a decline from a peak, in 1978, of nearly 50 per cent. Canada's share of the U.S. newsprint market has dwindled to 57 per cent in 1984, from 72 per cent in 1965, although, again, absolute volume has risen slightly. On the other hand, Canada's share of the U.S. lumber market increased from one-fifth to nearly one-third between 1974 and 1984.

Prospects

Although projections of world consumption of paper and paperboard vary considerably, one fact seems clear: the growth rate will be slower in the future

TABLE 12-5 Canadian Forest Products Exports: Selected Years 1950–1983

Year	Softwood Lumber	Woodpulp (percentages)	Newsprint	Other	Total	Millions of \$
1950	24.3	19.0	44.3	12.4	100.0	1 162
1960	20.4	20.5	47.8	11.4	100.0	1 587
1970	21.8	26.8	37.9	13.5	100.0	2 929
1980	25.7	30.5	29.0	14.8	100.0	12 697
1983	29.7	28.3	30.5	16.6	100.0	13 148

Source: *Bank of Canada Review* (various years).

TABLE 12-6 Canadian Volume Shares of World Production, Selected Years

Years	Softwood Lumber (annual average percentages)	Woodpulp	Newsprint
1951–55	9	22	53
1961–65	8	17	41
1971–75	9	16	36
1980–81	13	14	32

Sources: Forest Products Research Society, *Proceedings: Timber Demand: The Future Is Now*, p. 62; FAO, *1981 Yearbook of Forest Products Reports* (Rome: FAO, 1983).

TABLE 12-7 Canadian Volume Shares of World Exports

Years	Softwood Lumber (annual average percentages)	Woodpulp	Newsprint
1970–71	37	32	69
1980–81	44 ^a	33	61

Sources: Forest Products Research Society, *Proceedings: Timber Demand: The Future Is Now*, p. 62; FAO, *1981 Yearbook of Forest Products Reports* (Rome: FAO, 1983).

a. The Canadian share of softwood lumber exports reached a peak of 49.7 per cent in 1978 and it has been declining gradually since then.

than it has been in recent decades. The downward trend began in the 1970s, when the annual growth rate in the world pulp and paper industry fell from an average of 5.6 per cent in the 1960s to an average of 3.0 per cent.² The prime reasons for expecting this shift to continue into the future are an anticipated lower rate of income growth in the future and increased competition from substitutes. By the mid-1990s, technological developments, particularly new computer applications and advances in the electronic transmission of information, may further reduce the volume of paper used. Various forecasts predict that in the 1985–90 period, the growth rate for paper and paperboard will average 2.7 per cent, while for the years 1990–95 it will decline to 2.3 per cent.³

Global demand for lumber and wood products has grown at about 2 per cent annually over the past 25 years. For the years to 2000, world demand is projected to expand, at most, about half as rapidly as demand for paper products: that is, at an annual rate of 1 to 1.5 per cent.⁴ However, some intervenors at our hearings argued that the outlook beyond 2000 is brighter:

As the population of the world increases, you are going to see a tremendous increase in the demand for forest products . . . They say that nobody will be able to meet the world demand for forest products after the year 2000.

(Association of British Columbia Professional Foresters, Transcript, Vancouver, September 8, 1983 [vol. 3], p. 502.)

It is not certain that the Canadian industry will maintain even its current share of this slowly growing market. Access to the American market may be eroded by competition from lower-cost sources of softwoods, both in the southern United States and overseas. Recent U.S. estimates predict that until 2000, annual imports of softwood forest products will be no greater than they were in 1980, and that by 2010 they will be 9 per cent lower, although they will rise again by nearly 2 per cent per year over the subsequent 10 years to 2020.⁵ While new chemical/mechanical pulping technology is making the production of softwood pulp in Canada cheaper, the southeastern United States is expected to remain a lower-cost producer of softwood market pulp and newsprint than the northwestern United States or Canada.

Changes taking place in other parts of the world may further limit our ability to compete. Even a decade ago, there were as many as 90 million hectares of plantation forests in the world. The higher-quality ones can produce 15 to 20 cubic metres of timber growth per hectare per year. In Brazil, timber growth is 40 to 60 cubic metres per hectare per year. Success stories in nations such as Brazil, Chile, and Zambia suggest that while development and transportation costs are likely to be prohibitive in the medium term, new industrial plantations can be financially successful and could eventually reduce developing countries' imports of forest products from developed nations by as much as U.S. \$10 billion a year.⁶ As both developed and developing countries move forward rapidly with afforestation and plantation programs, long-term European and Japanese demand for Canadian natural forest products may also decline.

New technology allows the production of low-cost pulp from hardwoods, the major forest reserve of many tropical and Southern Temperate Zone nations. This development and the fact that hardwood is much cheaper in these countries (recently in the order of U.S. \$50 per tonne in Brazil as compared to U.S. \$105 in Canada),⁷ adds another negative element to the situation. However, work on fast-growing hardwood poplar that matures in 10 to 12 years suggests that Canada may eventually become competitive in this area.

Another factor that makes future markets for Canadian forest products uncertain is the possibility of an increase in trade barriers in the United States and other markets. In 1983, American producers attempted to block the unrestricted access that Canada enjoys in the U.S. softwood-lumber market. Several hundred American companies and nine trade associations argued that Canadian federal and provincial policies and practices violated

the U.S. countervailing law. This attempt failed, but the possibility of eventual success remains.

Since January 1, 1984, the Scandinavian countries have had unrestricted tariff-free access to the European Community (EC), Canada's second-largest market. As a result, the EC has reduced its 1.5 million-tonne tariff-free quota on newsprint imports from outside the European Free Trade Association (EFTA), even though this amount was stipulated in the GATT as compensation to Canada for the United Kingdom's entry into the Community. Over the last three or four years, the devaluation of the Swedish kroner by more than 40 per cent, relative to the Canadian dollar, has made Swedish products in that market highly competitive.

Finally, Canada's efforts to remain competitive in world markets are hampered by two domestic factors: high labour costs and inadequate investment. Labour costs account for about one-half of the cost of wood delivered to mills, and labour costs are higher in Canada than they are in the southern United States and the tropics. For newsprint, our labour costs are currently about 20 per cent above those in the southern United States. Moreover, Canada has had an unenviable record of labour strife in this sector.⁸

Investment in the Canadian pulp and paper industry was sluggish through most of the 1970s as compared to investment in the rest of the world, particularly in the United States. Much of the machinery now in use in Canada is technologically obsolete, and hence less productive than our major competitors' machinery. Over 50 per cent of our paper-making machines were built before 1950, as compared with 25 per cent in the United States and 5 per cent in Scandinavia. The Canadian average for employee-hours required per tonne of newsprint is 50 per cent above the average required in Scandinavia, and 25 per cent above the U.S. average. Moreover, Canadian plants for fine papers and other specialized products are relatively small and inefficient. It will take substantial investment to bring this sector up to a world-competitive level.⁹

Large investments are also necessary in many areas of the wood-products sector. In British Columbia, for example, much of the existing equipment now in use was bought when first-growth timber was still plentiful, and it is unsuited to the smaller diameter of second-growth timber. Consequently, unit production costs are high. The Canadian Forestry Service informed this Commission:

The industry has a very good history of generating inventions in the processing of wood and developing wood products. However, limited empirical studies of the sector's technological productivity suggest that it has not been particularly innovative in implementing new technologies . . . In brief, the capital plant of the sector has been heavily run down and has simply not kept pace with international competitors. (Canadian Forestry Service, Brief, February 10, 1984, p. 4.)

All projections of Canadian production and exports must be considered tentative. Table 12-8 summarizes one set of projections. Exports are expected to grow somewhat more slowly than domestic shipments, that is, at annual rates of about 2 per cent for woodpulp, and paper and allied products, and 2.2

per cent for lumber and other wood products. Even these estimates will prove overly optimistic if the United States realizes the projections mentioned earlier for growth of its domestic supply. To compensate for this loss, Canada would have to find huge new markets in the rest of the world. Given the current and prospective development of plantation forestry in the southern hemisphere, this would be a difficult challenge. Of a range of estimates provided by British Columbia's Ministry of Forests, the Economic Council of Canada considers as "most likely" a scenario, based on future demand as well as on supply factors, in which provincial harvests expand at only 1 per cent per year until 2000.¹⁰

Finally, there is the matter of future employment levels in the forest-products industry. The prospect is not encouraging. The Department of Regional Industrial Expansion (DRIE) estimates that employment cuts may be kept to 10 per cent from currently depressed levels, given possible new investment and modernization of the industry. If such investment is not undertaken, labour-force reductions could approach 20 per cent. Other sources predict still higher unemployment effects for some regions and for some sectors of the industry. The forestry subsector least likely to experience declines is pulp production.¹¹

Issues and Recommendations

Although the predicted industry-growth rates are less than those experienced in earlier years, they nevertheless represent substantially increased consumption of Canadian forest products. A 2 per cent annual compound growth rate for the forest industry implies that the demand for Canadian products will increase by more than 37 per cent by the year 2000, and by more than 67 per cent by the year 2010. A 2.5 per cent growth rate would require increases in output of nearly 50 per cent and 90 per cent respectively.

In fact, our ability to meet even the minimum projected increases in market potential is by no means assured. Contrary to the belief of many Canadians, we do not have limitless supplies of high-grade accessible timber. There are

TABLE 12-8 Canadian Projections for the Forestry Industries, 1980-95

Industries	(per cent per year)		
	Total Shipments	Domestic Shipments	Exports
Logging	2.0	2.0	N.A.
Lumber and other wood products	2.4	2.7	2.2
Paper and allied products (including woodpulp)	2.2	2.4	2.0

Sources: *Interim Report of the Forest Industries Advisory Committee* (Ottawa: Minister of Supply and Services Canada, 1983); and John Wansbrough, "Sectional View of the Longer Term: Forest Products", in *Long-term Economic Prospects for Canada: A Symposium*, vol. 23, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada, (Toronto: University of Toronto Press, 1985).

also grounds for concern about the age of the capital stock in the industry, as well as about labour relations, government policies and the state of research and development. It is clear that we face some real problems in this sector, problems that need attention soon if we are to continue to prosper as a significant international producer.

Timber Supply

Our supply of softwoods is declining rapidly, and in many regions of Canada, it will not be possible to sustain our present levels of production, even if the current decline is arrested.

(Canadian Institute of Forestry, Brief,
October 31, 1983, p. 9.)

[The lumber industry's] problem is going to be one of supply. Our fibre is limited. Unless we husband it extremely well and use every management tool, we are going to be short of fibre.

(Maritime Lumber Bureau, Transcript, Fredericton,
September 23, 1983 [vol. 15], p. 3553.)

Forests cover 44 per cent of our country's total area and represent 15 per cent of the world's forest lands. Quantity, however, is one thing and quality another. Less than half of Canada's forest area consists of stocked and productive lands. Furthermore, much of our productive forest land supports understocked forests of low quality. A unit of forest land in Canada supports much less wood than the same unit supports in Europe or in the United States. Finally, the forest-land base in Canada has been declining in the face of agricultural expansion, growing recreational land use, overharvesting, and poor management practices. Therefore, Canada's timber supply is not nearly as large relative to annual harvests as was once thought.

The peak harvest year to date was 1979. The difference between the harvest that year and the regulated annual allowable cut (AAC) is the theoretical timber reserve, or the amount by which the industry could theoretically expand the annual harvest. The size of the theoretical reserve for softwood timber (37 per cent above the AAC) would appear to suggest that the predicted 2 per cent annual increase in the softwood harvest could be achieved. However, a host of factors reduces the amount of timber worth harvesting, given existing and anticipated price and cost factors. These factors include inaccessibility; small size, poor quality or inappropriate mix of trees in relation to the available processing facilities; and inferior land bases for which reforestation is uneconomic. In addition, the AAC estimates for some areas are gross figures that ignore losses arising from forest fires, disease and insect destruction. Such losses are substantial: in the late 1970s, they were equal to about 80 per cent of the annual harvest.

When reserves of softwood are realistically evaluated, only Alberta has much scope for increased production on the basis of existing forest stands. Alberta's potential is almost double its 1979 harvest level.¹² For the nation as a whole, 2 per cent annual growth in the rate of softwood harvesting would create a deficit by 1995. Hardwood is another matter: projections indicate that reserves will still be substantial in 1995, amounting to nearly 160 per cent of requirements. Hardwood harvests, however, currently represent only a small proportion of total wood production in Canada.

Forest reserves have dwindled because the current forest-management policies of governments and the forest industry have failed to ensure adequate levels of reforestation. Canadians cut over an area of about 770 000 hectares annually. The area replanted or seeded annually is approximately 240 000 hectares.¹³ The Canadian Forestry Service estimates that 25 to 50 per cent of the area harvested annually fails to regenerate or reverts to non-commercial stocks. According to the Science Council of Canada, 25 million hectares of formerly productive forest land are now in a waste state.¹⁴ This area is equal to one-eighth of Canada's surviving productive forest land.

Poor harvesting and management practices are not the only cause of shrinking forest reserves. For every hectare of wood harvested between 1975 and 1979, nearly two hectares were consumed in forest fires, amounting to an average annual loss of 1.46 million hectares of forest. No more than half the total area of burned-over land will return naturally to commercially productive forest. Yet little of this land is being reforested. Other stands of timber are lost to insects, disease and windthrow. During the 1970s, the spruce budworm damaged nearly 75 million hectares of forest in the Atlantic provinces, Quebec, and Ontario, an area almost three-quarters of Ontario's size. And, of course, some productive forest land is converted each year to other uses.

In total, we are losing coniferous forest alone at a rate of about 1 million hectares per year.¹⁵ This figure does not take into account the significant damage by acid rain that is likely to occur in future decades. Research sponsored by the federal government has confirmed that acid rain reduces the germination rate and early growth of a variety of tree species. Over 38 million hectares of forest in eastern Canada may be subject to damage from this source.

The problems of our forests are not insoluble. Intensive silviculture, which involves genetic improvement, proper site preparation, prompt reforestation, fertilization, removal of brush and weeds, and commercial thinning, can produce average annual timber growth several times greater than the current average AAC per hectare for all of Canada. Any major reforestation and management programs undertaken in the near future, however, will not result in enhanced yields until well into the next century. As one intervenor suggested, the redemption of our forests is both an urgent task and one that will require great patience:

To work for the development of our forests is to work today for a distant future. Actions taken in 1984 will not produce results for 30, 40, 50, or even 80 years, but they have to be taken now if we don't want to sacrifice our forests. If it isn't done today, we'll lose them.

(Canadian Federation of Professional Foresters' Association, Transcript, Hull, December 14, 1983 [vol. 71], p. 14697.)

It will be difficult to design a policy that will embody enough patience to wait for trees to grow to maturity. Nevertheless, a policy of intensive forest management, that is, of forest husbandry, is essential. The Commissioners would invoke the familiar adage that a forest is not a gift we inherit from our ancestors, but rather a resource we borrow from our children and our grandchildren.

Land Tenure

One serious obstacle to proper long-term forest management in Canada is our system of forest-land tenure. In the United States, Sweden and Finland, about three-quarters of commercial forest land is privately owned. While private ownership is extensive in some provinces—73 per cent of Nova Scotia's forest land is in private hands, for instance—the figure for Canada as a whole is only 6 per cent. The remainder is Crown land controlled chiefly by the provinces, which delegate responsibility for forest-lands management to the private sector under various term licensing arrangements. From the public's point of view, this system has the advantage that it gives ultimate control over resource exploitation and management to government, and yet makes use of the labour and capital resources, organizational skills and operational efficiency of the private sector. The province's right to compensation for use of the publicly owned resource is upheld through the collection of stumpage fees on harvesting.

This system has a fundamental disadvantage: it is extremely difficult to design a tenure arrangement that will create sufficient economic incentives to ensure the efficient long-term management of timber resources. A private company will harvest timber at an optimal rate only if it bears the full opportunity costs of holding the timber as uncut inventory and has security of tenure for at least the period necessary for the forest to mature. Similarly, a private company will invest in reforestation and stand-improvement projects only if it can be certain that its tenure will be upheld over a term of several decades. Although forest tenure is usually renewable, the terms of tenure are subject both to periodic revision and to statutory amendment. For example, British Columbia granted Forest Management Licenses "in perpetuity" in 1947, only to reduce their term to 21-years renewable a mere 11 years later. Given that in Canada a stand of softwood trees takes 50 to 80 years to mature, the uncertainties generated by this system are obvious.

Because licensees have little inducement to engage in good management, government is obliged to intervene. Most licensing agreements specify harvest rates and recovery standards and require reforestation to some minimum standard. The Crown meets the costs of these contractual obligations by providing credits against stumpage payments. As a rule, it also extends credits for approved silvicultural management beyond the contractual minimum. In practice, however, these credits rarely provide an incentive sufficient to encourage licensees to pursue a standard higher than the minimum.

A recent Economic Council of Canada report¹⁶ rejects one alternative: selling Crown forest lands to the private sector; it gives several grounds for doing so. This action would result in an unacceptably high level of concentration in the ownership of the resource. It would leave some problems of market failure unsolved. The transition from public to private ownership would bring dislocation and uncertainty and thus delay required investment. Finally, in the Council's judgement, "privatization" of our forests would be politically unpopular and therefore, presumably, politically infeasible.

It should be possible to design systems of land tenure short of private ownership that would provide some incentive to licensees to practice more

efficient forest management. One simple improvement would be an increase in the duration of leasing agreements. This Commission recommends that leases be extended to coincide with the average maturation periods of the various tree species to which they apply, thus giving lessees a long-range incentive to protect and maintain the forest. This arrangement would not end the responsibility of government foresters to oversee the forest-management practices of the private occupier. Nor would this task exhaust the role of government. Commissioners see a need for a dramatic increase in public expenditure for forest renewal, forest protection and forest management.

Investment in Forest Renewal and Management

What scale of investment, public or private, would be needed to upgrade our forests and guarantee their future productivity? Estimates vary, but all are in the range of hundreds of millions of dollars. The Association of British Columbia Professional Foresters gave Commissioners an annual figure of from \$700 million to \$1 billion.¹⁷ The 1981 National Forestry Conference in Banff recommended that expenditure on silviculture be raised to \$600 million annually, approximately the expenditure required to raise the practice of silviculture in Canada to the level of practice in Sweden.¹⁸ Currently, annual spending in Canada on silviculture, public and private, amounts to \$240 million.

Commissioners recommend that provincial governments dramatically increase their expenditures for reforestation, for forest protection, and for silviculture generally, in keeping with the scope of the problem. Management of the resource falls squarely within provincial jurisdiction, and it is the provinces that will receive the direct benefits of investment in the form of higher stumpage fees. The monies should be dispensed on a case-by-case basis and only after careful study of the project's costs and potential benefits.

If Canada is to increase its standard of forest management, then we must also increase our expenditure for forest-service staff and for research. We lack enough professional and scientific personnel to carry out adequate forest management. The Scandinavian countries and the United States employ one professional forester for every 15 000 hectares of forest land. Canada employs one forester for every 43 000 hectares of forest land, and only a very small proportion of these are actively engaged in the field, making the actual ratio one forester to 380 000 hectares of forest. This Commission recommends major assistance for Canada's schools of forestry.

Canada also lags behind other countries in forestry research. In the fiscal year 1981–82, the federal government and the provinces together spent \$56 million on research related to forest management. The benefits that arise from forestry research can be very large: the U.S. Forestry Service has estimated that the average benefit-to-cost ratio for its forestry research is 50:1.¹⁹ A few case studies in Canada indicate that the ratio in this country is even higher.²⁰

Increased research is needed in two broad areas. First, Canadians must seek new ways to protect and improve the resource base: to limit insect damage, control disease and increase yields. This research should be modelled

on a systems approach, to include overall management strategies designed to put the Canadian forest back on a sustained-yield basis. Research should also be directed to the development of new varieties of trees. Development of fast-growing hardwoods would clearly benefit the Canadian industry. Softwoods take 50 to 80 years to mature; the hybrid poplar can be harvested in about 12 years. Hardwood fibres, which are much shorter than softwood fibres, cannot be used with current newsprint technology. At present, hardwood pulp is used on only a very limited basis, mostly for waferboard and fine papers. However, in view of the indications for future softwood supply and our substantial surplus of hardwoods, research that led to wider use of hardwoods could bring high returns. Given the importance of our forest industry and the obvious market failures described above, a case can be made for government participation in general research, such as an effort to develop faster-growing trees. Here we see a continuation of the traditional role of the federal government, in association with industry and provincial governments.

The private sector should bear the main responsibility for product and process innovation. Innovation characterizes any viable industry, and there is no more reason for government to subsidize innovation in forestry than there is reason for it to subsidize innovation in other sectors. In fact, government aid in the areas of reforestation, silviculture and basic research should be contingent on industry investment both in product and process innovation and in modern plant and equipment. If the public is to direct hundreds of millions of dollars annually toward the forestry sector, it must have some guarantee that the companies involved will carry their share as well.

While most of the Canadian forest is owned by the Crown, there are important holdings in private hands, particularly in the Great Lakes-St. Lawrence region and in New Brunswick and Nova Scotia. Private landowners, like the lessees of Crown lands, must be encouraged to carry out good forest practices. At present, certain aspects of public policy work against such practices and, in particular, fail to recognize the multi-generational nature of forestry. For example, the income-tax system encourages a private landowner to sell a forest stand outright to a jobber who will then clear-cut it, with no reforestation. The landowner who takes this course is subject to a capital gains tax at half the regular tax rate, whereas careful management and judicious harvesting would involve him in annual expenditure and potentially subject him to his full personal or corporate tax rate at the time of harvest. Stumpage would be sounder than a continuing property tax as a way of securing a return to provincial and local governments. Some provinces have recognized this situation: Ontario's Woodlands Improvement Act, for example, provides for a rebate of taxes on lands that are maintained in forest condition. Commissioners recommend that provincial governments actively pursue such policies, which can do much to assure proper management of existing stands and a rapid return to forest status of lands best suited to that use.

Given that private forest holdings are generally more accessible than most Crown lands to both markets and recreational use, and that they are capable of sustaining a wider range of tree species than lands within the boreal forest

region, the policies of all three levels of government should encourage the practice of good forest management on private landholdings.

This example illustrates the close link between taxation and the issues of forest management and development. Obviously, the taxation system is one important channel through which government could provide increased incentives for productive forest management to the forestry sector. As we move into a new era in Canadian forestry that will place more emphasis on proper husbandry, it will be necessary to re-examine the taxation structures now in place. A tax system that worked in an era of relatively cheap and plentiful timber may not work now.

Federal-Provincial Co-operation

In the course of the consultative process, Commissioners found broad support for some sort of nation-wide forestry plan or strategy:

Both levels of government must pursue a policy of investment in the development of our forests, private and public.

(Fédération de l'UPA du Saguenay-Lac-St-Jean,
Transcript, Chicoutimi, October 27, 1983 [vol. 35], p. 6855.)

It is imperative for federal-provincial agreements to be established to provide for commitment and continuity for forest management in a more meaningful and rational manner than heretofore.

(Canadian Forestry Association, Brief, September 26, 1983, p. 18.)

Commissioners agree that forestry is an area where enhanced federal-provincial co-operation is called for. We have already indicated the ways in which we see responsibilities being divided in the areas of reforestation, silviculture, and basic research. Other opportunities for co-operation will occur in the context of regional development policies involving forestry projects. The future of our forests is so critical to so many Canadians living in so many locations that jurisdictional issues cannot be permitted to hold up progress.

Conclusions

The forest products sector is typical of the state of natural resources in Canada. The sector is extraordinarily important to our country and especially so to some regions. The future seems bright enough, but not as robust as the past. In any event, there are serious and obvious failures of management which, if corrected, would provide a greater degree of assurance in the period of slower growth and tough competition ahead.

Much greater federal-provincial co-operation will be necessary to undertake policies that will:

- Increase substantially the investment in forest renewal, protection and management by the public sector, in return for performance and modernization guarantees by the forest companies
- Enhance the timber supply through a more intensive system of forest husbandry. Additional research funds will be required.

- Modify the forest-land/tenure system by extending the duration of leasing agreements
- Adjust the tax system so as to encourage proper maintenance of private woodlots.

Notes

1. Economic Council of Canada, *Western Transition* (Ottawa: Minister of Supply and Services Canada, 1984), p. 43.
2. Canadian Pulp and Paper Association, Brief, October 14, 1983, p. 17.
3. Peter Graff, "Paper Consumption—A Global Forecast", *Pulp and Paper International* (May 1983), p. 58.
4. Kenneth R. Farrell, Fred H. Sanderson, Trang T. Vo, and Michael F. Brewer, "Meeting Future Needs for United States Food, Fiber and Forest Products", in Joint Council on Food and Agricultural Sciences, *Reference Document: Needs Assessment for Food and Agricultural Sciences* (Washington, D.C., 1984).
5. *Ibid.*
6. John Spears and Edward S. Ayensu, "Sectoral Paper on Forestry", background paper prepared for the conference The Global Possible: Resources, Development and the New Century (Washington, D.C.: World Resources Institute, 1984).
7. Claes G. Hall, "Brazil and Its Economy—A Few Highlights" (mimeo, 1984).
8. Raymond R. Pinard, "The Forest Industry: Main Driving Force of Quebec's Industry", 1983–84 Hautes Études Commerciales Lectures (Montreal: DOMTAR, 1984).
9. Canada, Department of Regional Industrial Expansion, "Canadian Forest Product Industries: Vol. 1, An Assessment of the Pulp and Paper Industries; Vol. 2, An Assessment of the Lumber and Panel Industries" (Ottawa: The Department, 1984).
10. Economic Council, *Western Transition*, p. 45.
11. Department of Regional Industrial Expansion, "Canadian Forest Product Industries".
12. F.L.C. Reed and Associates Ltd., "Recent Reductions in the Canadian Timber Base", in Proceedings of the Canadian Forest Congress, Toronto, 1980, Appendix 4, p. 171.
13. Canadian Forestry Service, *Selected Forestry Statistics* (Ottawa, 1984).
14. Science Council of Canada, *Canada's Threatened Forests* (Ottawa: The Council, 1983).
15. Canadian Institute of Forestry, Brief, October 31, 1983, p. 8.
16. Economic Council, *Western Transition*, p. 53.
17. Association of British Columbia Professional Foresters, Brief, September 23, 1983, p. 7.
18. See Barry Sadler, ed., *Canada's Forests: Transition to Management*, proceedings of the National Resources Conference 1981 (Banff: Banff Centre, School of Management, 1982), p. 103.
19. Science Council, *Canada's Threatened Forests*, p. 12.
20. *Ibid.*

Fisheries

Profile

Fishing is Canada's oldest industry. Portuguese boats were visiting the bountiful Grand Banks regularly by 1450, a half century before the lands of what we now know as Canada were officially "discovered". Today Canada is the world's largest exporter of fish, although the total Canadian catch represents just 2 per cent of the world total. The catching and processing of fish contributed nearly \$1.3 billion to Canadian gross domestic product (GDP) in 1982 and employed 100 000 people.

There are three separate fisheries in Canada. The largest, the Atlantic coast fishery, accounted for 82 per cent of total tonnage and 71 per cent of total value of output in 1983. The catch is dominated by groundfish, mostly cod, and by luxury species of shellfish, in particular scallops and lobster. On the Pacific coast, the catch consists largely of herring, most of it destined for the Japanese roe market, and of highly valuable salmon. Though the commercial catch of freshwater fish in Canada is small in relation to the catch of marine fish, it is by no means insignificant. In 1983, it accounted for 3.6 per cent by weight and nearly 5.5 per cent by value of Canada's total fisheries harvest. Freshwater fisheries are especially important to Native communities throughout Canada.

Approximately 80 per cent of Canada's total annual fish catch is exported. Table 12-9 shows that our largest customer is the United States, followed by the countries of the European Community (EC) and Japan. Although we rank first in value of exports in world markets, earning nearly \$1.6 billion in 1984, our shipments make up only about 8 per cent of total value of trade in fish products. As a result, most of the Canadian industry has little market power in world fish markets; the exception is the British Columbia roe-herring industry. Control of markets for Canadian fish generally lies in the hands of American buyers.

TABLE 12-9 Canadian Fish Products Exports 1975-84

	1975-76	1983-84
Average annual value of exports (current dollars)	\$459 million	\$1 559 million
Percentage of total Canadian exports	1.4	1.4
Distribution of trade (%)	1976	1984
United States	67.9	60.9
Japan	1.7	14.8
European Community	18.3	13.2
Other	12.1	11.1
	100.0	100.0

Sources: Statistics Canada, *Summary of External Trade* (December 1976 and December 1984), Cat. No. 65-001 (Ottawa: Minister of Supply and Services Canada, 1977, 1985).

Fishing and fish processing provide only 0.4 per cent of Canada's GDP and employ approximately 1 per cent of our labour force. In British Columbia, the fishery accounts for less than 2 per cent of total employment. In the Atlantic region, however, fishery employment ranges from nearly 3 per cent of the labour force in New Brunswick to 20 per cent in Newfoundland. More than one-quarter of the total population of the Atlantic provinces lives in 1339 small fishing communities. At least half of these communities have essentially single-sector economies in which fishing and processing plants employ 30 per cent or more of the labour force.¹ These facts highlight the cultural, economic, and community significance of the fishing industry throughout the Atlantic region. As the President of the Canadian Saltfish Corporation stated at this Commission's hearing in St. John's:

In terms of Canada's GNP, [the fishery] is not of great consequence in total figures. In terms of the social and political and economic realities of Newfoundland, it is of tremendous significance. That must be recognized.

(Bill Wells, Transcript, St. John's, September 21, 1983 [vol. 12], pp. 2821-22.)

Prospects

The United Nations' Food and Agriculture Organization (FAO) has projected that the global demand for fish protein in 2000 could be more than double the demand in 1980 if relative prices for fish were to remain stable. It expects the demand for fish (and for food commodities generally) to expand most rapidly in the developing nations.²

If recent growth in the world catch is any indication of future supplies, we can anticipate a global shortfall by 2000. The world fishing industry experienced a dramatic decline in the rate of growth in landings during the 1970s. Throughout the 1950s and 1960s, the total saltwater and freshwater catch grew at an average annual rate of almost 6 per cent, from 22 to 71 million tonnes, but since the mid-1970s, the ocean catch has grown at a rate of about 1 per cent per year. The freshwater harvest in 1981 was 12 per cent lower than the harvest in 1970. The main reason for the decline is simply that global fish stocks are limited: some species are already over-fished and others are nearing that point. The dramatic reduction in 1973 of the Peruvian anchoveta harvest, from 13 million to 1.7 million tonnes, was the result both of over-fishing and of a great drop in the supply of plankton in 1972. This catch is still at least 80 per cent below the catch in 1970.

In Canada, too, over-fishing caused a severe decline in landings for some species in the 1970s. The greatest declines were in the Atlantic coast's gulf-herring fishery and in the catches for some types of Pacific salmon. The rebuilding of stocks has begun, but problems remain. Gulf herring is coming back only very slowly. In British Columbia, the management of salmon stocks is increasingly complicated by the effects on upstream spawning areas and downstream transit areas of forestry, irrigation, flood control, hydroelectric power generation, pollution, and urban and industrial development. Effective salmon-fishery management requires a highly sophisticated and carefully coordinated management plan for entire river basins. This represents an

expensive and a politically sensitive undertaking, not least because it involves both the federal government and the province.

On balance, however, the volume of most Canadian fish stocks, if effectively managed, should be more than sufficient to reach predicted levels of future domestic and export demand. Although the biological limits of prudent harvesting have been reached, or nearly reached, for some stocks, other stocks are still well above their equilibrium populations. Cod landings are expected to increase by perhaps 75 per cent over 1982 levels by 1987, and the potential for yield increases in some salmon stocks is also very large.³ Other potentially commercial stocks—redfish and Greenland halibut, for example—are now only lightly fished because of persistent weakness in traditional markets. Thus, while dwindling supplies constitute the long-term problem for the world as a whole, the principal problem for Canada, particularly in the next decade, is how to secure access to foreign markets and deliver the product to meet the quality and taste features demanded. For a few important high-value species such as scallops, lobster and Pacific roe herring, there is no shortage of demand. One intervenor described the situation as follows:

I think that fish, unlike the forest industry and the agriculture industry in Atlantic Canada still has considerable growth potential . . . The problem in the Atlantic fishery tends to be more a superabundance of fish and an inability to market it profitably, than it is a threat to the resource.

(Peter J. Nicholson, Transcript, Halifax, June 5, 1984 [vol. 5], pp. 1166–67.)

The potential for expansion in the Canadian market is relatively small. Our annual consumption of fish is very low—less than 7 kilograms per capita—but amounts vary substantially across regions. Domestic consumption amounts to about 20 per cent of domestic production. In the future, it is very unlikely to rise enough to match potential expansion in output; however, better distribution, particularly to regions with below-average per capita consumption, would improve the delivered product and increase consumption. Higher volumes of exports are the only viable solution.

The United States is Canada's largest export market. However, fish accounts for only 5.5 per cent of American consumption of animal protein. Groundfish, including cod, the major source of Canada's anticipated growth in supply, accounts for only 1.7 per cent. In order to absorb the anticipated expansion in Canadian cod output, Americans would have to increase their consumption of fish by one pound per capita, or about 7 per cent. If prices for fish products increase only modestly in the future, consumption may increase, and the development of new fish products might attract new buyers. In addition, a substantial and sustained advertising program could help to shift consumer demand from red meats and chicken to fish products. Larger and more dependable supplies of good-quality fresh fish offer by far our greatest market opportunity. It should be noted, however, that Canadian fresh fish exports, particularly of cod, haddock, and flounder, face perennial protectionist agitation by segments of the American fishing industry, a factor that could constrain future exports.

Japan has provided an increasingly important export market for Canadian fish in recent years: its share of Canadian exports increased from less than 2 per cent in 1976 to 14.8 per cent in 1984. On the other hand, increases in exports to Europe are likely to be limited by tariffs and quotas that give the Scandinavian countries privileged access. Expanded market access for Canadian groundfish in Europe is important. The strategy of several European fishing nations appears to be to limit or deny Canadian access to the European market in order to force Canada to concede quotas inside the 200-mile zone. European freezer trawlers produce for the higher-value portion of the market, confining Canadian exports largely to salt cod and some frozen products.

If Canada is to increase its share of markets, domestic and foreign, it must build a reputation for superior quality and quality consistency, particularly in frozen groundfish products. In the past, a reputation for inconsistent quality has damaged our country's position in the world market to some degree. One result has been Iceland's capture of most of the "high quality" frozen cod market in the United States, although Canada has recently made encouraging strides towards gaining a share of this market. The Japanese and western European markets are extremely quality-conscious, and they have come to expect a number of products to possess a freshness that is possible only if the fish has been processed and frozen at sea.

Canadian fisheries policy has forbidden the use by our own fishermen of the freezer-factory trawlers that are routinely employed by the Japanese, the West Germans, the French, and, recently, the Americans. The purpose of the prohibition has been to protect on-shore plant employment, but this objective must now be weighed against the increasing cost of missed opportunities to diversify our markets and take maximum advantage of currently underutilized species. Unless we open significant new outlets for increased production, we can only expect continuing price depression in our traditional market, the United States, with the effect that the future of existing shore-based employment will remain precarious and confined to traditional species.

What of the rapidly growing markets for fish products in the developing nations? While there will certainly be some opportunities for increasing Canadian exports of fish to these markets, they will be limited by the perishability of the product, given current technology and delivery systems, and by the relative poverty of many of the developing countries.

Issues and Recommendations

The dominant theme of those who appeared before this Commission to discuss the fishery was one of missed opportunity. Many intervenors doubted the sector's ability to take full advantage of the great opportunities that do exist, and there was no hesitation in identifying where the problems lie:

The current crisis in our fishery is perhaps an excellent example of the economic enterprise allowed to flounder because of lack of management, innovation, productivity and market development.

(Sandy Cameron, Transcript, Halifax, October 13, 1983 [vol. 24], p. 4621.)

With the extension of jurisdiction, when [we] finally had a nation that was prepared and had the capability to control the resource, to husband it and farm it and then develop a pattern of harvesting production and marketing to take advantage of the resource, for the first time in 400 years of history, that opportunity presented itself and we completely blew it.

(Bill Wells, Transcript, St. John's, September 21, 1983 [vol. 12], p. 2824.)

Fishing has been the object of a series of inquiries that stretch back into the last century. Two recent inquiries undertaken by the Commission on Pacific Fisheries Policy (the Pearse Commission) and the Task Force on the Atlantic Fisheries (the Kirby Task Force) have identified the major problems facing the industry on each coast and have made many recommendations for reform. Much of the analysis that follows has been adapted from the reports of these bodies.⁴

Overcapacity

Overcapacity abounds in both the harvesting and the processing sectors of the fishing industry. There was a rapid increase in capital investment and employment in the fisheries just before and again after the introduction of the 200-mile limit in 1977. The increase was based on an expectation, encouraged by both the federal government and the interested provinces, that Canadians would now have access to greater fish stocks, and that export demand would increase as a result of the exclusion of foreign fleets. Notwithstanding its own dire warnings that the fishery resource could not sustain many of the grandiose schemes being proposed, the Department of Fisheries and Oceans permitted the number of licensed fishermen on the Atlantic coast alone to increase by 45 per cent between 1974 and 1981. Between 1977 and 1981, the number of east coast processing facilities, under provincial jurisdiction, but with financial encouragement from programs delivered by the federal government's Department of Regional Economic Expansion (DREE), rose by 35 per cent. In the same period, employment in the fishing sector on the Pacific coast increased by 37 per cent. On neither coast, however, did the anticipated export boom occur, although a few markets, such as the Japanese market for Pacific salmon, did create a market for increased Canadian exports. It is clear, in the circumstances, that expansion has been excessive.

The basic source of overcapacity lies in the common-property aspect of the resource. The lack of identifiable ownership of the fish stocks both encourages a higher than optimal number of participants to remain in the industry and provides an incentive for each participant to maximize potential catch through investment in gear. A more powerful vessel enables an individual fisherman to anticipate a larger share of a common quota. Since everyone reasons similarly, the result is a fleet of more powerful and more expensive vessels, without any increase in each fisherman's share of the quota. In some fisheries, the result of intensive competition for limited stocks has been a depletion of the resource. In most fisheries, the result is excess capacity and thus lower profitability. Appropriate regulation of the fisheries requires both allocation of the stock and prevention of overinvestment in gear on the part of individuals.

Overcapacity in processing plants also arises, unavoidably, from the seasonal nature of the inshore fisheries. Because plants are built to handle peak capacity and are idle for much of the year, profitability is lower than it would be in less seasonally oriented sectors. The seasonal peaking also strains quality control.

Possible solutions to the problem of overcapacity in the harvesting sector will be taken up below. As for overcapacity in the processing sector, the Kirby Report advances a number of recommendations aimed at increasing off-season use of processing facilities. These recommendations include the establishment of specific allocations for "resource-short" plants in the off-peak season, the freezing of a portion of the summer inshore catch for off-season processing, and the introduction of an intermediate-sized vessel, the so-called "Scandinavian longliner", that would be able to operate almost year round off the northeastern coast of Newfoundland.

Income

Another important issue in the Canadian fishing industry, one obviously related to overcapacity in the harvesting sector, is the generally inadequate level of income earned from fishing. In the Atlantic industry, in particular, many fishermen must supplement their income from fishing with income from other sources, of which Unemployment Insurance (UI) is the most important. In 1981, the average income of full-time east coast fishermen was approximately \$16 000; 75 per cent of this amount was derived from fishing and 16 per cent from UI. In the smaller Pacific-coast fishery, the average fishing income was roughly twice as high. The difference was partly a result of the higher value of Pacific species such as salmon and roe herring.

The Pearse Report urges review of the Unemployment Insurance provisions for fishermen. Contributions to Unemployment Insurance by fishermen fall far short of benefits received, a situation that encourages participation in an overcrowded activity. The Pearse Commission found that because of the shortness of the fishing season for most fishermen, the contributions of west coast fishermen amount to less than 5 per cent of the benefits received. Furthermore, the criteria for eligibility for seasonal benefits can result in pressures to alter fishing periods in order to comply with UI requirements. Average weekly catches, which determine benefits, usually decline near the end of the season and so have the effect of reducing benefits. Naturally, the fishermen tend to quit early to avoid this penalty.

The Kirby Report proposes a scheme that would replace Unemployment Insurance for fishermen with new production-bonus and income-stabilization programs. The federally funded production bonus would consist of cash credits paid in the off-season and determined by criteria such as gross value of landings, fish quality, season of catch, and gear used. The gross-income/stabilization plan (based on a rolling five-year period) would be funded by the federal government and the participants in the program. The Kirby Report suggested that pilot projects be designed to test these ideas.

Commissioners' general recommendations about unemployment insurance appear in the section of Part V that deals with social support. Fishing

Benefits, however, constitute an entirely separate program, only 10 per cent of which is financed from premium contributions of fishermen and 90 per cent from consolidated revenues.⁵ It is therefore more appropriately dealt with here.

This Commission believes that both the general economic foundation of the fishery and the ultimate welfare of those remaining in fishing will be better served if the fishing-benefits provision of the UI program is terminated and replaced by an income-stabilization scheme of the type recommended in the Kirby Report. The substitution of such a scheme was envisaged at the time of the 1971 amendments to the Unemployment Insurance Act, yet implementation has been repeatedly delayed by considerations very far removed from those of either efficiency or equity. After termination of Fishing Benefits, fishermen would be eligible not only for an income-stabilization scheme, but also for income supplementation under the Universal Income Security Program (UISP) proposed in Part V. Income from fishing and from the stabilization plan would be taken into account in determining UISP benefits. Consequently, lower-income fishermen would receive income support from UISP, while higher-income fishermen, many of whom now qualify for full UI benefits, would no longer receive assistance. The proposal would not reduce the total value of transfer payments to fishermen, but it would reallocate these funds according to criteria designed to promote more economically efficient behaviour.

Fleet Licensing and Allocation of Stocks

Both the Pearse and the Kirby Reports conclude that "quota licenses" or "enterprise allocations" are the preferred licensing practice where they are feasible. Quota licenses are similar to techniques used to regulate the use of other renewable resources (such as timber, water, and grazing land) in that the licence assigns a specific catch to each licensee. This system eliminates the basic cause of overcapacity (the common-property aspect of the fishery) and encourages participants to adapt their vessels and fishing methods in order to take the licensed catch at the lowest cost.

However, the effective use of quota licensing requires reliable information on fish landings. In addition, it is difficult to adjust quotas in fisheries where stocks fluctuate widely and unpredictably. These considerations preclude the use of quota licensing in the salmon and roe-herring fisheries. Consequently, the Pearse Report recommends the use of a revised limited-entry licensing system based on gear capacity in these two fisheries and a quota-licensing system in most other west coast fisheries. As noted above, the licensing procedure is an effective means of controlling fleet size. The Pearse Report recommends resort to a buy-back scheme to reduce the salmon and herring fleets by 50 per cent.

On the Atlantic coast, quota licensing is most feasible for trawlers longer than about 18 metres, for herring seiners, and for scallop draggers. Since the inshore fishery includes approximately 8000 smaller vessels, the monitoring of individual catches that a quota system requires would not be practical in this sector. It would be better to control the landings of inshore fishermen by

setting a limit on the amount of gear that each fisherman is allowed to use. The Kirby Report advises that licences should not be transferable between inshore and offshore sectors, but that "enterprise allocations" should be divisible and tradable within sectors. Since the report was received, the enterprise-allocation scheme has been formally implemented throughout the Atlantic offshore-trawler fishery and, on an experimental basis, for boats in the 16- to 19-metre range on Newfoundland's western coast. The method has been well received by fishermen and has not produced any serious practical problems.

The issue of inshore versus offshore allocation of stocks is contentious. At present, the two fisheries share the total catch about equally. Because of the employment patterns, however, the Atlantic inshore fishery (estimated at 85 to 90 per cent of fishermen, including the mid-shore fleet) is seen as the "social" fishery, while the offshore fishery, which covers 10 to 15 per cent of employment, is considered more efficient economically. However, as the Kirby Report notes, there are many particular situations that reverse this pattern. For example, the inshore fishery of southwestern Nova Scotia has had more economic success than the trawler-based fishery on Newfoundland's southern coast. Ultimately, the economics are determined by the practical length of the fishing season, the cost of catching, the inherent value of the stocks available, and the number of fishermen sharing the landed value of the catch in any given region.

Since the 200-mile limit was set in 1977, the inshore and offshore sectors of the Atlantic fishery have been engaged in a tug-of-war for allocations of fish stocks. While the conflict is real, the terms used to characterize it are misleading. At stake is not the distance from land at which fish are caught, but rather the control of resource supply and the timing of its delivery to processors.

Integrated, trawler-owning companies (the offshore sector) have sought the security of a year-round fish supply. This purpose has led them to oppose the award of larger allocations to independent fishermen (the inshore sector), who are generally unable to deliver fish throughout the year because of environmental factors, that is, the weather and fish migrations, and who are not bound to deliver their catches to any particular plant. The seasonal peaking of deliveries from the inshore fishery also causes difficulties in marketing.

While the struggle between fleet sectors and between provinces for larger shares of the resource is bound to continue, its intensity is likely to abate. In the first place, the rate of quota growth has slowed substantially, which means that there is much less "new fish" to fight over. Moreover, it has finally become widely recognized that the preoccupation with larger and larger catches is inappropriate in light of limitations in the market. Again, following the Kirby Report, the Department of Fisheries and Oceans has divided all Atlantic groundfish quotas into inshore and offshore percentage allocations that have been guaranteed to remain fixed for at least five years. Canadians may hope that this arrangement has eliminated most of the remaining potential for "inshore/offshore" conflict, at least for the medium term.

International Considerations

Fisheries policy and management are subject to influence by a variety of factors in the international environment. Foreign (mainly European) governments continue to seek permission to fish, particularly for cod, within the Canadian 200-mile limit. As a rule, these governments back up their requests both with an offer to give Canada preferred access to their own markets and with a threat to close their markets to our fish products unless we accede to their request.

The Kirby Report recommends that Canada develop and expand its markets by conventional means, rather than by making allocations to foreign fleets in return for access to their markets. It also calls for re-examination of Canada's traditional hostility toward foreign investment in our fishery. Foreign investment could afford access to new markets and new technology, as well as to badly needed capital. Ultimate government control of the resource provides a measure of protection of sovereign interests that is not available in many other sectors of the economy. However, little capital, Canadian or foreign, will be forthcoming as long as the currently available technology is barred from the Canadian fishery and access to the United States market remains insecure.

Some of Canada's fishery-development and management problems, particularly in the Pacific salmon and halibut fisheries, arise from conflict between Canadian and American fishery policies and programs, both at the federal level and the state or provincial level. These problems demand the bilateral negotiation of politically sensitive issues and the successful administration of bilateral commissions, such as the International Pacific Salmon Fisheries Commission (IPSFC) and the International Pacific Halibut Commission (IPHC). In addition, because Canada is a major coastal nation, it is both our responsibility and in our interest to maintain an active role in the negotiation of international issues under the Law of the Sea. By and large, the effect on the Pacific fishery of the 1982 United Nations Convention on the Law of the Sea (UNCLOS), or the UNCLOS III "enclosure movement", has been to reinforce the vulnerability of Canadian fishery development and management to the vagaries of Canada-U.S. diplomacy and transboundary-management arrangements. Thus international pressures have reduced the Canadian halibut fishery. Some difficult diplomatic issues relating to the salmon fishery have been resolved: after 14 years of negotiation, the Pacific Salmon Treaty was signed in March 1985.

Aquaculture

Opportunities both for growth of supply and for reduction of seasonal unemployment in the fisheries may arise from the development of aquaculture (the raising of fish stocks within enclosures) and the culturing of shellfish. Salmon farming is in an early developmental stage in a few operations in British Columbia and on the Atlantic coast. The results so far are mixed, but many observers are optimistic about the future of these technologies.

Aquaculture has long been practised in Asia and Europe. Some European nations have now moved into aquaculture as a large commercial venture. In 1982, Norway and Denmark each produced about 20 000 tonnes of salmon and trout by aquaculture, a tonnage that Norway hopes to double shortly. In contrast, Canada's production by aquaculture of these two types of fish for 1982 was less than 800 tonnes. Oyster farming by Japan in 1982 amounted to about 250 000 tonnes, compared with Canada's 2000 tonnes.

The greatest advantage of aquaculture is that it enables producers to supply fresh fish of uniformly high quality on a regular basis. Aquaculture is also a means of providing alternate employment to some of the workers who withdraw from traditional fishing as excess capacity is reduced. Norway's aquaculture demonstrates both these features: it has at once moved strongly into European markets and provided direct employment (about 2000 person-years in 1983) in small seaside communities.

Aquaculture will probably be the area of greatest future growth in the world's fisheries. Like expenditure for basic agricultural and forestry research, expenditure for aquacultural research is not something that private producers undertake naturally. The amounts involved are too large, and the possibility of a direct pay-off is too small. Consequently, a substantial portion, but certainly not all, of the contribution must come from governments at both levels.

Employment, Efficiency, and Regional Development

Fisheries employment on both coasts is expected to decline over the next decade in response to reduction of excess capacity, modernization and rationalization. On the east coast, particularly in Newfoundland, these factors may be partly offset by greater production as cod stocks continue to increase over the next few years, but elsewhere the tendency is unambiguous. The challenge is to devise policies that will allow the number of people employed in the fishery to decline slowly. If the decline is gradual, it should be possible to ensure adequate incomes for those who remain and to develop other employment opportunities for those out of work. We deal elsewhere in this Report with adjustment assistance, and our recommendations there apply to the fisheries.

Fishery-policy issues in the Atlantic region have invariably had a political and cultural, as well as an economic, significance. Rationalization measures will unavoidably have implications for the coastal settlement pattern and for the rural way of life. It is difficult to envisage any formulation of fishery policy for the Atlantic coast that does not attempt to accommodate these concerns. Canadians have come to recognize the inevitability of balancing efficiency and social considerations. As Commissioners were told at our hearings:

This unique problem of, in some cases, a single industry dependence, and fluctuations in its economic environment can lead to social disruption and the constant debate between the industry's social goals and its economic efficiency.

(Fisheries Council of Canada, Brief, September 13, 1983, p. 4.)

The Kirby Report recognized this duality in setting out what it saw as two important objectives for the Atlantic fishery:

1. *The Atlantic fishing industry should be economically viable on an ongoing basis, where to be viable implies an ability to survive downturns with only a normal business failure rate and without government assistance.*
2. *Employment in the Atlantic fishing industry should be maximized subject to the constraint that those employed receive a reasonable income as a result of fishery-related income transfer payments.⁶*

The debate centres on the specific terms of the trade-off, that is, on the public cost implied by the trade-off in relation to both the resources of government and the values that Canadians assign to the preservation of certain traditions. Out of this implicit balance evolves a view of the proper role of government in fisheries policy and of the fishery in the social and economic development of the region.

There is little that this Report can add to the technical material already available in the reports of the Pearse Commission and the Kirby Task Force. We can only reiterate what is already obvious to many Canadians: that any change in fisheries policy is extraordinarily difficult to achieve because the industry has become inextricably bound up with regional development, employment policy and profound desires to preserve lifestyles and communities.

This Commission is convinced that Canadians are forgoing significant economic benefits from the fishing industry because of the way it is operated. The real issue may not be whether economic efficiency should override social objectives. Rather, it may be whether Canadians are prepared to implement the recommendations discussed in this section, applying the discipline required to facilitate adjustment and so attain a longer-term gain for both the "social" and the "economic" fisheries.

Conclusions

We Commissioners shall not attempt, at this point, to summarize the many recommendations we have referred to, but we shall make some suggestions which strike us as vital for the medium- and longer-term success of the Canadian fisheries. A secure access to export markets, particularly that of the United States, will require considerable attention. Quality and technological factors, including freezer ships, quality-related pricing, aquaculture, and less-perishable delivered products, will be important for the development of the fresh-fish and other markets.

Problems of overcapacity ought to be addressed along the lines of the Pearse and Kirby recommendations, a few of which are already being implemented to some extent. An income-stabilization scheme should replace the Fishing Benefits provision of the Unemployment Insurance program. The results of declining employment opportunities should be dealt with according to the proposals set out in Parts III, V and VI of this Report, where adjustment assistance and regional development are discussed.

Commissioners believe that if Canadians and their governments move in these directions, the fishery should continue to show potential for growth on a national basis. It should also have a pre-eminent part in preserving and enhancing the network of small communities of Canada's coastal regions.

Notes

1. Canada, Task Force on Atlantic Fisheries, *Navigating Troubled Waters: A New Policy for the Atlantic Fisheries* (Ottawa: Minister of Supply and Services Canada, 1982), p. 23 (Michael J.L. Kirby, Commissioner).
2. Food and Agriculture Organization of the United Nations, *Agriculture: Toward 2000* (Rome: FAO, 1981), p. 82.
3. See Task Force on Atlantic Fisheries, *Navigating Troubled Waters*, p. 49; and Canada, Commission on Pacific Fisheries Policy, *Turning the Tide: A New Policy for Canada's Pacific Fisheries* (Ottawa: Minister of Supply and Services Canada, 1982) (Peter H. Pearce, Commissioner).
4. Commission on Pacific Fisheries Policy, *Turning the Tide*; and Task Force on Atlantic Fisheries, *Navigating Troubled Waters*.
5. The financing for the national UI program is split 25/75, on average, when unemployment approximates 10 per cent; that is, 25 per cent is paid from consolidated revenue, and 75 per cent is paid from premiums. Fishermen represent an anomaly in the UI program, since many are self-employed and thus have no "employer contribution". The proportion of UI benefits paid from consolidated revenue would naturally tend to be higher than the national average.
6. Task Force on Atlantic Fisheries, *Navigating Troubled Waters*, p. 60.

Minerals

Profile

In the period leading up to the First World War, railway construction and the discovery of new deposits led to the establishment of the first permanent mining communities in Canada. These were places such as Glace Bay, founded in 1901; Kimberley, in 1892; Thetford Mines, in 1892; and Timmins, in 1912. In the 1920s, improved exploration and mining techniques, coupled with a sharp increase in the demand for minerals, stimulated more development. The greatest growth in mining occurred during the 25 years after 1945, and it was in those years that Canada attained its present prominence in the international minerals trade.

Table 12-10 shows Canada's output, our share of world output, and our rank among world producers for 14 major minerals (excluding oil and gas) in 1973 and 1983. For all of these minerals, except coal, Canada is among the top seven producing nations in the world. Overall, we are the world's largest exporter of minerals, selling over 80 per cent of our total production abroad. Nevertheless, Canada has not had for some time, and cannot now expect to have, much market power in mineral resources, with the possible exception of nickel. Competition from new sources has substantially reduced Canada's share of world production for several minerals. Between 1973 and 1983, nickel's share slipped from about 42 per cent to 19 per cent, asbestos slipped from about 42 per cent to 20 per cent, and silver dropped from over 16 per cent to less than 9 per cent. Smaller, but by no means trifling, declines occurred in our production shares for copper, zinc and lead. Only in the production of potash and sulphur has Canada's role increased significantly in recent years. Representatives of the Quebec mining industry told this Commission that:

The situation of the mining industry in Quebec is particularly gloomy. Over the past 10 years, copper production has dropped by 36 per cent, zinc production by 54 per cent, and asbestos production by 56 per cent. The production of iron ore has decreased by 25 per cent in the last five years. Only the production of gold has increased — by 145 per cent — in the course of the last decade.

*(Association des mines de métaux du Québec Inc.,
Transcript, Quebec City, October 25, 1983 [vol. 33], p. 6415.)*

While Canada sells minerals to more than 100 countries, in 1983, Canada's most important foreign customers were the United States (60 per cent of exports), the European Community (15 per cent), and Japan (7.5 per cent). In 1983, the metallic and non-metallic minerals (excluding hydrocarbons) that brought the largest export revenues were aluminum, copper, iron ore, potash, nickel, zinc, asbestos, molybdenum and lead, in that order.

The minerals industry has played a pivotal role in the economic and regional development of our country. Today, the mining industry dominates economic activity in some 140 communities in every part of Canada,¹ although those employed directly in mining account for less than 2 per cent of the labour force. In value of mineral production (excluding hydrocarbons), Ontario ranked first among the provinces in 1984; it was followed by Quebec, British Columbia, Saskatchewan and Newfoundland.

TABLE 12-10 Canadian Production and World Rank of Major Minerals

Minerals	Canadian Production 1983 (1973)	Share of World Production 1983 ^a (%) (share in 1973)	Canadian Rank in 1983 ^a (rank in 1973)	Major Producers 1983 (rank)
Iron ore (mine production)	33.5 million t ^b (47.5 million t)	4.5 (5.7)	7 (4)	U.S.S.R. (1) Brazil (2) Australia (3) China (4) India (5) U.S.A. (6)
Copper (mine production)	653 000 t (824 000 t)	7.6 (11.3)	4 (3)	Chile (1) U.S.S.R. (2) U.S.A. (3) Zambia (5)
Nickel (mine production)	125 000 t (249 000 t)	19.1 (42.5)	2 (1)	U.S.S.R. (1) Australia (3) New Caledonia (4) Cuba (5)
Zinc (mine production)	988 000 t (1 226 000 t)	16.5 (22.4)	1 (1)	U.S.S.R. (2) Australia (3) Peru (4) U.S.A. (5)
Lead (mine production)	272 000 t (342 000 t)	7.3 (10.0)	4 (4)	U.S.S.R. (1) U.S.A. (2) Australia (3) Peru (5)
Gold (mine production)	73 512 kg (64 650 kg)	5.1 (4.7)	3 (3)	South Africa (1) U.S.S.R. (2) China (4) USA (5)
Silver (mine production)	1 197 t (1 477 t)	8.9 (16.3)	5 (1)	Mexico (1) Peru (2) U.S.S.R. (3) U.S.A. (4)
Molybdenum (Western world)	10 194 t (13 785 t)	16.7 (16.5)	4 (2)	Chile (1) U.S.A. (2) U.S.S.R. (3) Mexico (5)
Aluminum ^c (primary metal)	1 094 000 t (941 500 t)	7.6 (7.5)	3 (4)	U.S.A. (1) U.S.S.R. (2) West Germany (4) Norway (5)
Asbestos	858 000 t (1 690 000 t)	20.3 (41.5)	2 (1)	U.S.S.R. (1) South Africa (3) Zimbabwe (4) Brazil (5)

TABLE 12-10 (cont'd.)

Potash (K ₂ O equivalent)	6 294 000 t (4 453 000 t)	23.6 (19.9)	2 (2)	U.S.S.R. (1) E. Germany (3) W. Germany (4) France (5)
Sulphur (elemental)	6 631 000 t (4 168 000 t)	17.9 (14.5)	2 (2)	U.S.A. (1) U.S.S.R. (3) Poland (4) France (5)
Uranium ^d (U concentrates)	6 823 t (3 661 t)	19.2 (18.7)	2 (2)	U.S.A. (1) South Africa (3) Namibia (4)
Coal	44 787 000 t (20 473 000 t)	N.A.	N.A.	N.A.

Sources: Canada, Energy, Mines and Resources Canada, *Canadian Minerals Yearbook*, 1973, 1983, (Ottawa: Minister of Supply and Services Canada, 1975, 1984), Table 8, and *The Canadian Mineral Industry, Monthly Report* (January 1985), Table 3.

Note: N.A. = Not available. Canada does not rank in the world's top ten coal producers. The top five producers are the United States, the Soviet Union, China, Poland, and West Germany.

a. Preliminary figures.

b. t = tonnes.

c. Shipments rather than production.

d. Western world only.

As Table 12-11 shows, employment in metal and non-metal mining increased steadily in the 1960s to include about 87 000 persons by 1970. The 1970s saw fluctuations in metal-mining employment, but overall, mining employment in 1980 was the same as it had been in 1970. The recession of 1981-82 caused a significant shrinkage in mining employment. The job total had fallen below 79 000 by 1982, the lowest level since the mid 1960s. Certain regions, such as Quebec-Labrador and Yukon, were particularly hard hit. Employment in mineral-manufacturing industries grew more steadily between 1960 and 1980, reaching 180 000 in the latter year. The recent recession had an impact here, too: by 1982, the job total was 161 000.

Market structure in the minerals sector is dominated by a few multi-national corporations that often set prices among themselves in an oligopolistic style, and pre-empt the market through vertical integration and long-term contracts. For instance, the world prices for aluminum, asbestos, sulphur, uranium, and potash are set by multi-national corporations, as are the American, Canadian and South American prices for copper and zinc, and the European price for zinc. Because of weak demand, oligopolistic pricing of nickel and molybdenum has not been possible. Long-term contracts are very important for copper, iron ore, coal, manganese, bauxite, aluminum, and uranium.

TABLE 12-11 Number of Persons Employed in the Minerals Sector

	Mining-Industry Employment 1961-82 ^a						
	1961	1966	1970	1976	1980	1981	1982
Metals	58 591	61 670	66 590	68 269	66 118	68 712	61 503
Non-metals	16 238	18 734	20 660	21 334	21 440	20 574	17 171
Total	74 829	80 404	87 250	89 603	87 558	89 286	78 674
	Mineral-Manufacturing/Industry ^b Employment 1963-82 ^a						
	1963 ^c	1966	1970	1976	1980	1981	1982
Primary metal industries	91 621	110 303	116 545	117 041	126 450	125 168	113 215
Non-metallic mineral products industries	44 487	51 144	49 428	55 021	56 086	55 269	47 949
Total	136 108	161 447	165 973	172 062	182 536	180 437	161 164

Source: Canada, Energy, Mines and Resources Canada, *Canadian Minerals Yearbook 1970, 1975, 1984-85* (Ottawa: Minister of Supply and Services Canada, 1972, 1977, 1985), Statistical Summary.

- Includes production, administrative and office workers. Excludes fuels, except for petroleum refining.
- Includes metal rolling, casting, iron foundries, iron and steel mills, cement, lime and clay products, glass manufacturing, petroleum refining.
- Figures for 1961 are unavailable.

World output of most minerals grew rapidly during the 1950s and 1960s. In the same period, average prices declined. In the 1970s, however, growth in output fell sharply, while prices reversed their long decline and underwent a significant rise. The price increases of the 1970s were not caused by a failure to provide new reserves, for reserves continued to swell. They were caused, in part, by the sharp rise in the price of oil during the 1970s, since energy cost is a sizeable factor in the cost of minerals production. Rising concern about the environmental and health hazards associated with the production of minerals has also resulted in higher costs for producers.

Prospects

Commissioners encountered a wide range of views about the future prospects for Canada's mining industries. Some intervenors were quite optimistic:

This isn't the end of the world for the mining business. We have properties of merit [for example,] . . . Canada is very rich in potential. God, we are one of the richest countries in resources in the world!

(Falconbridge Limited, Transcript, Sudbury, October 20, 1983 [vol. 31], p. 5993.)

Many others were decidedly more pessimistic:

As many of you know, the mining industry in Canada is experiencing its most severe economic downturn since the 1930s. This malaise, however, is not merely the result of cyclical metal markets or the deep recessions that have affected most western economies. It is attributed also to the deep-seated changes that have taken place in international metal markets.

The last several years have seen rising energy costs which have the twin effects of raising production costs for most industrial manufacturing operations and of reducing the consumption growth rate for most base metals.

In addition, many mineral producers have remained in the market largely as a result of subsidies or other support they receive from their respective countries. The outcome of all this is heightened competition . . .

(Prospectors and Developers Association, Transcript, Regina, November 24, 1983 [vol. 51], p. 10746.)

Canada ranks third amongst the world's mineral producing countries; but while it is still the largest producer of several minerals, its market share is slipping badly, and the world mineral market in which it shares is a stagnant or contracting one.

(BP Selco Inc., Brief, December 14, 1983, p. 4.)

Generally, the sentiment seemed to be that while there is genuine cause for concern, mining is not a "sunset" industry; it can be improved if both government and the private sector take the appropriate steps:

Contrary to common perception, we do not have a very rich mineral endowment by world standards . . . What we do have in Canada is a mineral endowment that is ample enough, given the application of Canadian exploration and mining skills and a supportive governmental environment, to continue to generate new wealth for most of Canada's less advantaged regions.

(BP Selco, Brief, December 14, 1983, pp. 8-9.)

Opinion varied, however, about whether the problems we face are endemic to the industry as a whole or apply only to particular commodities. Inco Limited told us that "whatever ails the copper industry, ails to various degrees our Canadian mining companies" (Inco Limited, Transcript, Thompson, October 19, 1983 [vol. 30], p. 5808), but the Canadian Chamber of Commerce tended to the second view:

Within the mining sector there are going to be some areas where obviously we are going to have a very rough time. Copper is certainly one. But there are others where we have an edge, and where in regard to our productivity, we believe that we can compete. And potash, coal and . . . zinc, as well, where we have the majority production in the world in the developed countries.

(Canadian Chamber of Commerce, Transcript, Hull, December 14, 1983 [vol. 70], pp. 14861-62.)

The present problems of the Canadian mining industry are largely the result of three inseparable factors: the recent recession, structural changes in world production and trading patterns, and technological change. The impact of the recession on world mineral consumption was dramatic. Like other major producers, Canada found itself saddled with large excess reserves and unused

capacity in virtually every mining sector. World consumption of some minerals has yet to return to the peak levels of a decade ago.

Structural changes in world mineral markets began to have a noticeable effect at the same time that the world economy slowed down. Thus, the maturation of industry in Western countries has resulted in a decline in the intensity of metals use, a trend not offset by high rates of economic growth in some industrializing countries. Other factors of change are the entry of new producing countries in particular mining sectors; the substitution of plastics, ceramics and even glass for copper, steel, lead and nickel; the substitution of one metal, such as aluminum, for another, such as copper or nickel; the development of new uses for some metals, such as the use of copper for solar heating and air-conditioning; reduction in demand, as cars become smaller, for iron and steel, zinc, copper, nickel and lead; a reduction in demand for lead and asbestos because of their threat to health; and more recycling of metals. On balance, these changes suggest that one of the main challenges to the world mining industry will be to develop and market new uses for its output.

The more recent the projections of demand growth and price increases, the more modest they tend to be. Nearly all studies completed before 1980, or even before 1982, now look unrealistically high. The September 1984 projections from the World Bank, shown in Table 12-12, suggest that in general, world demand for minerals will grow much more slowly over the next decade than it did during the two decades before 1973, although not quite as slowly as it grew between 1973 and 1980. The World Bank expects the greatest growth in demand to occur in the developing nations. These countries, however, may not provide a market sufficient to absorb a large expansion of exports from the mining sector of developed countries such as Canada.

As for prices, the future is mixed. Column 6 of Table 12-12 presents the World Bank's predicted rates of real price change over the next decade. Only the prices for lead and potash are expected to rise from their 1983 levels by 1990. The World Bank anticipates some recovery in real prices after 1990 for all the minerals listed, except iron ore and potash; even so, only copper, aluminum, and zinc are expected to reach prices even modestly above the 1981 levels by 1995. In general, then, the next decade promises prices for minerals that are not much different, on average, from the prices that were obtained before 1970.

What do these projections imply for specific Canadian minerals? It seems clear that a number of metal-mining, smelting, and refining industries are under considerable competitive pressure. This is particularly true of industries that depend on copper, which is losing many of its traditional markets to other materials. As for nickel, even though Canada is the lowest-cost producer in the world, subsidized protection in less-developed countries (LDCs) and among members of the Council for Mutual Economic Assistance (COMECON) means that excess capacity and depressed prices will likely be characteristic of this industry for years to come. Canadian production costs have declined substantially in recent years, but even with the Canadian dollar below \$.75 U.S. our costs are still somewhat above prevailing world prices.

TABLE 12-12 Global Projections of Demand

Minerals	Demand Growth Rate (% per year) by Economies				Real Price Changes	
	Industrial	Centrally Planned	Develop- ing World	(1983/1981) x 100	1984 Projection (% per year)	
Iron-ore ^a				102.5		
1983-90						
1990-95					-1.12	
1985-95	0.1	1.1	5.3	1.0	0.00	
Aluminum ^b				107.1		
1983-90						
1990-95					-0.75	
1985-95	2.6	2.0	4.7	2.9	0.79	
Copper				95.8		
1983-90						
1990-95					-0.14	
1985-95	0.9	2.1	3.4	1.6	1.72	
Nickel ^c				97.8		
1983-90						
1990-95					-0.22	
1985-95	1.6	0.7	3.6	1.5	1.69	
Zinc				94.6		
1983-90						
1990-95					-0.22	
1985-95	2.2	1.9	3.1	2.3	1.69	
Lead				61.3		
1983-90						
1990-95					3.21	
1985-95	0.7	2.6	3.0	1.6	0.63	
Potash				60.6		
1983-90						
1990-95					5.75	
1985-95	1.6	3.1	4.6	2.8	0.00	

Source: World Bank, "Price Prospects for Major Primary Commodities" (Washington, D.C.: World Bank, Economics and Research Staff, 1984), Vol. I, II, IV.

- a. Projected growth rates for gross imports (1985-1995).
- b. U.S. producers' list prices are used.
- c. Merchant market prices as published by *Metals Week* are used.

Lead has lost a significant portion of its traditional market through the discontinuation of its use in paint and the decline in its use in gasoline. The most important market for lead, accounting for about 50 per cent of sales, is the lead-acid battery industry. To date, no substitute for the lead-acid battery has appeared, although the down-sizing of cars has reduced demand for the metal. Zinc sales depend greatly on zinc's use in steel alloys. Thus the degree to which improved steels, such as the new High Strength Low Alloy and Dual

Phase steels, can compete successfully with plastics and other new materials that are encroaching on steel's traditional markets will affect not only the iron and steel industry, but the zinc industry as well.

Projections for iron ore forecast a surplus on world markets until the early 1990s, primarily because of decreasing demand for steel. This chronic overcapacity suggests that high-cost producers, including those in Canada, may face financial difficulties. Inco Limited told this Commission that "Australia and Brazil alone could satisfy the world's iron-ore requirements for more than 50 years at current rates of consumption." (Inco Limited, Brief, October 11, 1983, p. 7.)

Canada's share of world aluminum production has risen modestly over the last decade, largely because our electric power is relatively cheap. Moreover, in contrast with most of its competitors, the Canadian industry is opening new energy-efficient plants. Consequently, the future of aluminum production in Canada appears quite satisfactory.

Gold is the major focus of exploration and development activity in the Canadian mining industry at this time. In 1983, 70 per cent of all new capital investment in mining was directed to gold production.²

Canada produced 19 per cent of the Western world's total output of uranium in 1983. We may soon replace the United States as the world's leading producer. At present, Canada generates only 11 per cent of its electricity with nuclear power. This figure is expected to increase to 19 per cent in 1990 and to 22 per cent in 2005.³ Although domestic use of uranium will increase, Canada will require only about 15 per cent of domestic uranium production for its own use.

The difficulty, in the short term at least, will be to find markets for our own surplus output in a world which tends to over-supply. Since, over the next few years, the United States is expected to account for about half of the non-communist world's requirements for uranium which is not already covered by domestic production or long-term contracts, new sales to that nation are important.⁴ Over the years, moreover, American producers have attempted to embargo Canadian uranium imports through Congressional action. So far, as with timber, these efforts have been unsuccessful. The next-most-important market for new sales is Western Europe, where the Canadian product is already well represented.

Both of these obstacles to uranium production and export may prove to be temporary. Nuclear power production in the Western world is expected to double over the next decade. It will probably do so even in the United States, where the growth of nuclear capacity has been retarded by cancellations and delays. In the long term, then, the value of Canada's uranium exports is expected to rise substantially.

For the four major non-metallic minerals—*asbestos, potash, sulphur and coal*—the outlook is mixed. The industry likely to face the most difficult time is *asbestos*, whose prospects are reduced by serious health concerns about its use. World demand for *potash* will grow substantially in the longer term, although there will be excess supply for the next few years. Saskatchewan has the largest and lowest-cost reserves of *potash*, and it will undoubtedly take a major place in world markets in the years ahead. It is expected that the

province's potash production will rise by 7 per cent annually. The most likely markets for Saskatchewan's potash are the United States, China, India and Brazil.⁵ An important question is whether Canada's potash industry should be content to suffer the ups and downs of a marginal supplier, or attempt to dominate markets through long-term contracts.

Most of the sulphur produced in Canada is a by-product of the natural gas industry. Sulphur is removed from the gas in order to "sweeten" it. World consumption of sulphur increased in 1983 and 1984 after a sharp drop in the United States and a smaller decline in Western Europe in 1982. In the short term, world consumption should exceed production. As a result, sulphur inventories in Canada should continue to decline and prices should rise. Natural gas-price deregulation in Canada is expected to result in increased production and sales of gas to the United States and consequently, in higher sulphur production.⁶

Coal reserves have a wider global distribution than those of most other minerals, and so international trade in coal is relatively limited. Metallurgical coal for steel making has long been the main world coal export. In recent years, however, trade in thermal coal—that is, coal burned to generate electric power—has been increasing as countries strive to diversify their energy supply sources. Meanwhile, growing efficiency in steel production and substitution of other materials for steel has reduced demand for metallurgical coal. The Canadian metallurgical coal industry, which still accounts for about 85 per cent of Canada's coal exports, is burdened with substantial excess capacity and faces numerous foreign competitors. Just as huge new developments came on stream in northeastern British Columbia in 1984, producers in southeastern British Columbia were shutting down some of their production. Projections of export demand suggest that it will not be necessary to develop much new capacity beyond what will become available during the mid-1980s. Nevertheless, the National Energy Board (NEB) predicts that exports will expand sufficiently to constitute 38 per cent of total demand for Canadian coal in 2005, compared with 29 per cent in 1983.⁷

Although Canadian coal costs at the minehead are generally in line with those in other producing countries, our costs of transportation over the long distances from minehead to port are relatively high. Thus Canadian thermal coal, in spite of its low sulphur content, is often at a noticeable cost disadvantage in European markets, relative to supplies from the eastern United States, Poland, South Africa and even Australia.

Japan is the nation with the largest appetite for imported coal. Canada holds a 15 per cent share of the Japanese market for metallurgical coal, and opinions vary as to whether the Japanese portion of Canadian exports will grow or decline. The future Japanese demand for coal imports from all countries is also uncertain. It may be necessary for Canadian producers and provincial governments to develop a united front in negotiating with Japan as their Australian counterparts are now doing. Japan is financing new mines in northeastern British Columbia and other places around the world. These developments are depressing the prices which all producers can get for their exports to that country.

The NEB expects Canadian demand for coal to grow about 2 per cent annually, on average, between 1983 and 2005. The mix of demand will remain about the same as it was in 1983, with electrical generation accounting for about 74 per cent. The share of coal in domestic electricity generation is projected to decline from 17.3 per cent in 1983 to 14.3 per cent in 2005. However, the total use of coal in terms of the energy it will provide (for electricity generation and all other uses) is expected to increase by 53 per cent by 2005.⁸ It is often suggested that if Ontario Hydro were to buy more thermal coal from Canada's Western sources and less from the United States, the market for Western coal could be expanded. On efficiency grounds relating to transportation costs and energy value, it is more expensive to shift to Canadian sources. On the other hand, American coal has a higher sulphur content than Canadian coal and creates larger social costs in increased emissions. In sum, although growth in production and exports of coal will not match the rapid pace of the last decade, coal production should continue to expand.

Clearly, unless unforeseen changes occur on the world scene, it is unlikely that the Canadian mineral sector as a whole will soon — or, perhaps, ever — re-experience the buoyant conditions it enjoyed in the 1950s and 1960s. Some minerals, such as potash, aluminum and gold, will continue to do well. For many other minerals, however, gains will be harder to achieve than they were in earlier decades. If our Canadian industry is to maintain its current world market shares, that is, if it is to expand at the same rate, at least, as world demand, it will have to cope effectively with world competition.

Issues and Recommendations

World Marketing Issues

There are several important obstacles to the expansion of Canadian mineral exports. Many developing nations have used domestic subsidies and international aid to exploit their mineral resources. In spite of slack demand, these countries will continue to produce minerals and to export them, at subsidized prices if necessary, in order to maintain employment and to earn vital foreign exchange. There is some evidence that some COMECON nations are also following subsidized export strategies. Much of world trade in minerals is tightly controlled by governments: about 50 per cent of world copper trade and 40 per cent of nickel trade, for example.

Trade barriers, too, are often detrimental to Canada's minerals trade. Most developed countries grant preferential access to non-ferrous metals from most developing countries under a Generalized System of Preferences. In addition, some markets are difficult to enter because of special regional trade-and-aid arrangements, such as those the European Community maintains with former African colonies. Furthermore, many countries allow free entry to raw materials, but maintain high effective tariffs on processed minerals. U.S. protectionism is a threat to Canadian exports of steel, copper, uranium and, possibly, aluminum exports because of Canada's cheap and allegedly subsidized hydro-electricity rates.

Canada does bring some advantages to the competition for world minerals trade. Because Canada is a price taker, rather than a price setter, even a one-cent decline in the value of the Canadian dollar in relation to the U.S. dollar can give Canada a more competitive position or, alternatively, raise the profits of Canadian firms. If depreciation is to be helpful to the industry, however, a lower Canadian dollar must not simply result in offsetting increases in costs. Other factors that improve our position in world minerals trade are the country's political stability, a well-educated labour force, technological know-how, and developed transportation systems. These factors help to offset Canadian disadvantages, relative to many developing nations, of less rich deposits and higher wages.

Success in international markets will require renewed effort on the part of both the mining industry and our government. We can continue to be an important mineral-producing nation, but we cannot assume that this will come about naturally. We shall obviously need to maintain and secure access to international markets, but there are other, more specific measures that need to be taken as well.

Industry Performance

The biggest difficulty presently facing many Canadian mining companies is their financial predicament: specifically, their high ratio of debt to equity and hence their high interest costs. Although this ratio has been evident since the late 1960s, it reached serious proportions with the advent of very high interest rates and a world recession in the early 1980s. The debt-to-equity ratio rose from 0.60 in 1979–80 to 1.04 in 1982, and the cashflow-to-debt ratio dropped, during the same period, from 0.54 to 0.04.⁹ This situation, however, was largely a result of the companies' own decision to shift their reliance from equity and long-term bonds to bank loans with floating interest rates. This decision apparently represented an attempt to prevent dilution of shareholders' equity and raise the return on this equity. It was not forced on the industry by any increase in its capital requirements: the ratio of capital to value added in mining actually decreased between 1941 and 1976.¹⁰ Neither was it purely a consequence of economic recession, for the trend to greater dependence on debt financing has continued over several business cycles.

In the past, expenditure for research and development (R&D) in exploration, mining, smelting and refining techniques did much to keep the Canadian mining industry competitive. In recent years, however, only the aluminum industry has invested significantly in R&D for process innovation. In the other mineral sectors, R&D expenditure has been very small, nor is much work being done to develop new product uses for metals, a crucial need in light of the many substitutes for metals being introduced.

Many critics of mining management emphasize its inadequate and short-range view of corporate planning, which has led to rapid reversals of policy and erosion of longer-term cost and efficiency improvements; its lack of attention to market and product diversification; and its tendency to substitute higher pay for the appropriate development of human resources and

employer-employee relations. Intervenors at this Commission's public hearings admitted to these problems:

The first onus is on the mining industry to put its house in order. (a) It must expand and make more efficient the exploration process in Canada . . . (b) It must expand research into exploration and mining technologies . . . (c) It must re-direct its efforts towards smaller, high grade, low cost mines . . . (d) We must look for new markets and new applications for our projects.

(BP Selco Inc., Brief, December 15, 1983, pp. 16-17).

Thus, although many of the changes in world circumstances are beyond the control of Canadian firms, it would appear that the industry itself could do much to improve its performance. The industry should place less reliance on bank loans and more on equity capital, even if this step means that new shares are priced below book value. It should also pay more attention to employee relations and human resource development. While depreciation of the dollar enhances the international competitiveness of the Canadian mining industry, it is important that wage and executive-salary costs do not become unrealistically high. Finally, increased research and development would make the industry both more competitive and more environmentally sound.

Obviously these measures will not be efficacious in every case. We must accept the fact that some mines will face increasing difficulties over time, and we must be prepared to see them phased out, intervening to provide adjustment assistance only when necessary. Governments cannot, and should not, intervene to bail out failing operations. If a deposit is truly viable, the private sector can be counted on to refinance and reorganize the operation and resume production. If it is no longer profitable, we must let it go.

Taxation

A frequent theme in mineral industry representations to this Commission was the complaint that, in general, taxation of the industry is at once too high and of the wrong type. The industry argued that governments have failed adequately to recognize the cyclical nature of returns on minerals, particularly metals. Thus many of the tax measures now in place are based on a temporary improvement in profitability in the 1970s and the widespread assumption that there were very substantial economic rents to be collected by governments. In the present context, the effect of these measures is punitive.

Among the variety of views we Commissioners heard during our hearings were:

Value based royalties are inefficient because they arbitrarily reduce the net value of ore in the ground regardless of the price it can command. Dual tax jurisdictions resulting in a variety of anomalies and differing classifications are difficult to administer from the tax payer's point of view and have resulted in unduly high effective tax rates relative to profits.

(BP Selco Inc., Brief, December 15, 1983, p. 18.)

The principle of economic rents coming off the top as opposed to a residual is one the Commission should examine with respect to other mineral products as

well as gas and oil. I happen to know of a situation currently where the fact that the economic rents come off the top is stifling a further investment and expansion in a mining industry in Canada which then provides advantages to world wide competitors.

(Dr. Lloyd Barber, Transcript, Calgary, June 19, 1984 [vol. 11], p. 2816.)

The two essential features of mineral resources are that they are limited in supply and that deposits vary in quality. If the revenue from the highest-cost source exploited (that is, the marginal source) equals the owner's costs for labour and materials, plus a normal return to the capital in use, then lower-cost sources will generate revenues in excess of the costs and the normal return. This surplus is called "economic rent".

Governments capture economic rents from non-renewable resources through leases, auctions, Crown corporations, regulation and taxes. Among the taxes that have been used to secure resource rents are those on the units sold or value of output (such as the Petroleum and Gas Revenue Tax), export taxes, property taxes, profit taxes and royalties. The prevalent form of royalty is a fixed levy on each unit of output.

Three factors need to be taken into account in any evaluation of a tax designed to capture resource rents: the efficiency aspects of the tax, its equity aspects, and its effect on government revenues. A tax introduces inefficiency into the pattern of resource use to the extent that it causes the resource to be allocated in a way that it would not be allocated in the absence of the tax. A tax that is expressed as a fraction of economic rent should not affect resource allocation. However, a tax per unit of output, which constitutes a gross royalty, can distort allocation by making it unprofitable to exploit deposits that, in the absence of the tax, would be profitable to exploit. If the royalty exceeds the potential rent from a deposit of a given quality, the producer will have no incentive to exploit that deposit. The royalty thus induces the producer to raise the cut-off grade and to reduce the amount of resource extracted in order to maximize profits. A number of provinces now permit the producers of many resources to deduct some operating and other costs from their royalty payments, an arrangement that reduces the cut-off/grade effect.

Taxes on returns to equity, that is, profit taxes, make no distinction between the normal return to the capital in use and the rent; consequently they generate some disincentive to efficient use of inputs, especially at high rates of taxation. In general, however, a profit tax reduces efficiency less than does a gross royalty system. Royalties are appealing to governments because they are easy to administer: the rate of tax is simply multiplied by the output of the producer. The computation of a tax on profits is more complicated, since allowances must be made for production costs. In some circumstances, moreover, the greater allocative efficiency associated with a profit tax can be a disadvantage: since a profit tax does not affect output, it does not favour conservation over extraction.

Because non-renewable resources are seen as society's property, taxing economic rents away from the producers does not violate any notion of equity. Nevertheless, it is difficult, in the absence of a conclusive definition of a "normal return to capital", to determine what proportion of the returns to the

producer consists of economic rent. Even if this proportion could be determined to the entire satisfaction of producers and governments alike, gross royalties would not be an equitable way to extract the rent: because the royalty rate under a gross royalty system is uniform, firms with the same income can face different tax bills. A tax on profits is more equitable than a gross royalty system; so is a net royalty system, which allows the deduction of certain costs from gross royalties.

A royalty system is a more stable source of government revenue than a tax on profits. Profit taxes are paid only when an operation becomes profitable; they stop when losses are realized. Royalties, on the other hand, are paid on a continuous basis from the moment the operation begins. Moreover, profit taxes are affected by both changes in price and changes in output, while the amount of royalties paid depends on output alone (though output may fluctuate more under a royalty system than under a profit-tax system). The latter point is not necessarily an argument in favour of royalties: it may be that governments are better equipped than are firms to support cyclical variations in income.

The choice between the two tax systems depends, then, on the weights assigned to their respective costs and benefits. A profit tax has no effect on output; however, the higher the tax rates associated with a profit tax, the smaller the incentive to the firm to lower its production costs. A gross royalty system, on the other hand, is easier to administer than a profit tax and generates a steadier flow of government revenues; it also provides some incentive to resource conservation, which a profit tax does not. By the same token, a gross royalty distorts allocative efficiency to a greater extent than does a profit tax, and it might also be seen as less equitable.

Commissioners recommend that the federal government and the provinces collaborate in the establishment of a tax system that is more closely related to profits, while retaining a minimum gross royalty. After collection of a low-level gross royalty, taxes should be levied on profits rather than on output. For income-tax purposes, gross-royalty payments should be deductible from income. Exploration costs and other expenses necessary to bring properties to the stage where capital expenditures for production facilities become necessary should be deductible from current income, or it should be possible to carry them forward for deduction in future years. An amortized portion of capital expenditures, including property-acquisition costs, should also be deductible or carried forward.

Since minerals are a non-renewable resource, the provinces, as owners, are entitled to compensation. Royalties based on output have long been a part of the Canadian rent-collection structure and they should continue to be so. The argument has been made that to maintain a minimum gross royalty on non-renewable resources would ensure that some lower-grade ores will not be produced because they would not contribute to a profit. So be it: what is not produced now will be available for production in the future.

Regulation

Regulation ranked next after taxation in the list of the mining industry's concerns. Intervenors complained about the sheer number of regulations, the

costs of complying with them, and the unpredictability with which they are implemented and then altered:

A further burden on our industry is the cost to us of the regulatory environment in which we are asked to operate. The Federal Government uses 25 different departments and agencies to administer 35 separate Acts and 78 separate sets of regulations which govern mining activities. This is largely duplicated at the Provincial level in each province in which we choose to operate.

The costs of this are twofold. Not only do we incur the loss of productivity and direct costs of our side of the regulatory interface, but the sheer size and complexity of government means that there is no longer an effective government/industry interface. (BP Selco, Brief, December 15, 1983, p. 8)

In the development stage government intervention can be a heavy burden. Assurances of stable regulation and security of tenure are essential in order to enable a company to finance the project and negotiate long term contracts for its product. (Saskatchewan Mining Association Inc., Brief, October 25, 1983, p. 4)

This is not an area in which it is easy to make recommendations. It is understandable that the industry should find frustrating the multiplicity of boards, hearings and regulations. At the same time, it must be remembered that each of these interventions exists for a reason, however unreasonable the overall structure of intervention may sometimes seem. Many regulations are aimed at protecting the environment, and this is a purpose that Canadians generally support, for it is of critical importance in the long term. Many people argue, indeed, that even economic development is eventually threatened if the natural environment is not safeguarded. Other regulations seek special employment advantages for groups that have not always fared well in the minerals sector. Still others attempt to maximize the economic spin-offs to the province, region or municipality; again most Canadians support this practice in principle.

As Commissioners will point out below, in our review of environmental issues, a case can be made for imposing more and tougher environmental regulations. In general, however, we are sympathetic to the claim that the regulatory process for mining properties is cumbersome and slow, and that it is hampered by unnecessary duplication of regulations by different jurisdictions. Clearly, there is room for improvement. It would be helpful if governments were to sit down with industry representatives and relevant public interest groups and work out a mutually acceptable set of procedures. Companies must have reasonable assurance that they will face substantially the same regulatory environment over the lifetime of a planned investment. We urge governments to undertake a systematic review of their regulatory regimes affecting the mining industry, with a view to simplifying and streamlining them and to removing interjurisdictional duplication. Given the evidence that the industry will face a harsh competitive climate over the next 20 years, it is all the more important to undertake a review of this type now.

Conclusions

It is generally expected that average annual growth in demand for non-fuel minerals in the next two decades will run at less than half the rates attained

since the close of the Second World War. Global structural changes and mineral substitution have left a legacy of surplus productive capacity that for Canada's non-ferrous metals may take five, ten or even more years to correct. The minerals industry is not without its bright spots, however: the outlook is encouraging for aluminum, potash, the precious metals and, perhaps, uranium.

In the minerals area, this Commission recommends that:

- After collection of a minimum royalty, taxation be based on profit rather than output
- Canadians take a more realistic attitude towards the economic adjustments that will be necessary. Commissioners have suggested that criteria be established for government intervention.
- Governments undertake a systematic review of their regulatory regimes with the intent of streamlining the processes.

Given supportive public policies, the minerals sector will remain a significant, if relatively declining, contributor to the Canadian economy in the foreseeable future.

Notes

1. A 1979 DREE study identified 142 communities in which 30 per cent or more of the total labour force depended on metal and non-metal mining, smelting, and refining. See Task Force on Mining Communities, established by Federal, Provincial and Territorial Ministers with Responsibilities for Mining, *Report* (Ottawa, 1982).
2. Canada, Energy, Mines and Resources Canada, *Canadian Reserves as of January 1, 1983* (Ottawa: Minister of Supply and Services Canada, 1984), and *Canadian Mines: Perspectives from 1983* (Ottawa: Minister of Supply and Services Canada, 1984).
3. National Energy Board, *Canadian Energy: Supply and Demand 1983-2005*, Technical Report (Ottawa: NEB, 1984).
4. Noel O'Brien, "A Canadian Viewpoint on the Outlook for Uranium", paper presented at Mineral Outlook Conference, Ottawa, 1984 (Toronto: Denison Mines Limited, 1984).
5. Economic Council of Canada, *Western Transition* (Ottawa: Minister of Supply and Services Canada, 1984).
6. Canada, Energy, Mines and Resources Canada, *1983-84 Sulphur Review* (Ottawa: The Department, 1984).
7. National Energy Board, *Canadian Energy*, p. 95.
8. *Ibid.*, pp. 49 and 95.
9. Canada, Energy, Mines and Resources Canada, *Medium-Term Outlook for Minerals: A Preliminary View* (Ottawa: The Department, 1984).
10. Ralph Sultan, "Financing the Future", in *Financing Canadian Mining in the 1980s: Strategies for Action*, edited by David Yudelman (Kingston: Queen's University, Centre for Resource Studies, 1984).

Oil and Gas

Energy issues loom large in the affairs of most nations, and Canada is no exception in this respect. Over the last decade, energy policies have been the subject of protracted and sometimes rancorous debate among Canadian governments and between Canada's private and public sectors. Much of the rancour is now past, but many questions remain.

Retrospective

From Leduc to the National Oil Policy

Canada's modern oil and gas industry began with the discovery of Imperial #1 at Leduc, Alberta, in 1947. This find led to a basic re-evaluation of the geology of the Western Sedimentary Basin, and soon other oil and gas fields were discovered, most of them in Alberta, but some in Saskatchewan and British Columbia. Western Canadian oil needs were quickly met, and the search began for markets to absorb the surplus capacity. The Interprovincial Pipeline reached Manitoba in 1949. It was extended to Sarnia in 1953, and eventually, to Toronto. Another pipeline, the Transmountain, took Alberta crude oil through the Yellowhead Pass to Vancouver and Seattle. The pattern was repeated for natural gas. After much political debate, the Trans-Canada Pipeline was completed to carry natural gas to eastern Canadian markets. Westcoast Transmission brought gas from Alberta and the Peace River district of British Columbia to Vancouver and the northwestern United States.

Even with these pipelines in place, the Western oil and gas industry operated well below capacity. Pressure soon developed in the West for import restrictions that would reserve the eastern Canadian market for Western producers. The federal government referred this and other energy issues to the Royal Commission on Energy (the Borden Commission). Its report, issued in two parts in 1958 and 1959, set the stage for the next era in Canadian energy policy.

The National Oil Policy

The federal government announced the National Oil Policy (NOP) on February 1, 1961. Following the report of the Borden Commission, it drew the "Ottawa Valley Line", as it came to be known, west of Ottawa and along the Quebec-Ontario border. All oil purchased west of this "Borden line" had to come from western Canada. Quebec and the Maritimes, on the other hand, were allowed to continue to import lower-cost off-shore supplies. In exchange for a Canadian agreement not to restrict imports of Venezuelan crude, which was controlled in large measure by American companies, U.S. authorities agreed to open up the important Chicago market to Western producers. The National Energy Board (NEB) was created to oversee this marketing arrangement, and to monitor and approve natural gas-export contracts.

With the fillip of the NOP and the general economic expansion of the times, the Canadian oil and gas industry continued to grow. The main purchasers of

crude oil in eastern Canada were a highly concentrated group of refiners, owned in large part by the same companies that supplied the oil and in some instances owned the pipelines through which it travelled. Alberta instituted a pro-rationing system in order to exert some influence on the price. Canadian oil prices were also affected at this time by the fact that Ontario prices were not to rise to the point where they encouraged the “smuggling” of refined products from Quebec. (They did rise to that point eventually, and “smuggling” did begin.) Import restrictions drove up prices in the United States, and gradually Canadian supplies to the Chicago market became cheaper than comparable U.S. deliveries. The net result of these influences was a remarkable stability in Canadian crude oil prices throughout the NOP years. This stability provides a vivid contrast with what was to come.

From 1971 to 1980

The Organization of Petroleum Exporting Countries (OPEC) had existed for some time before it was able to exploit its market power effectively. Growing international shortages and agreements between OPEC and the multi-national oil companies began pushing prices up in 1971, but it was the Arab-Israeli war in 1973 that led to a truly dramatic price rise. Canada, as a small importing *and* exporting country, was affected by these developments in two quite different ways. As an importer, we faced the same new economic burdens as other oil-importing nations. As an exporter, however, we found that our petroleum supplies had suddenly become much more valuable. Oil, which had been freely marketed at less than four dollars a barrel, was now to quadruple in price.

Because of geography and past marketing arrangements, losses were concentrated in one part of the country—central Canada, the Atlantic Provinces, and Manitoba—and gains in another—the three Western provinces. Westerners were able to view this asymmetry without any great alarm, but Easterners and the federal government were not. Relative regional welfare levels rise and fall continuously in Canada as economic circumstances change, but this shock appeared to be too large and too sudden simply to ride out.

The situation facing Canadian policy makers was complicated. It was not clear exactly what was happening in world oil markets. Many analysts were predicting the imminent collapse of OPEC. There was understandable reluctance to force a costly adjustment to a situation that might well be reversed. Moreover, most of the economic rent that would result from moving Canadian prices to world prices, assuming that the world-price level was stable, would accrue, in the first instance, to multi-national oil companies with reserves and production in western Canada. Neither the provincial royalties in place nor corporate income taxes would capture more than a small portion of the windfall gain. Under the terms of the existing equalization scheme, the entitlements of the recipient provinces rose each time Alberta's revenues increased. Since even Ontario would soon become a “have-not” province under the formula, the potential drain on federal revenues was enormous. The Arab nations' embargo on oil exports, a consequence of the

Arab-Israeli war, emphasized the vulnerability to loss of supply of the market in Quebec and the Atlantic provinces. Serious doubts began to arise about the adequacy of our remaining reserves of oil and gas. We spoke of exhausting our reserves in 13 years, rather than in hundreds of years. Oil-price increases of the extent occurring in the world market would certainly add to what was already considered a serious inflation problem.

The National Oil Policy died in the fall of 1973. In September, as part of its anti-inflation program, the federal government temporarily froze the domestic price for Canadian crude at the then-current level of \$3.80 per barrel. Export prices were to rise to the world level, and the federal government would collect as an export tax the difference between the Chicago price and the frozen Canadian price. Revenue from this surcharge would be used to subsidize the costs of importing OPEC oil into eastern Canada. The announcement in December of a single national price structure below world levels consolidated this policy.

The second part of the strategy was to address the threat of supply disruption in Quebec and the Atlantic provinces. The provinces and the federal government set up task forces to monitor the supply situation on a daily basis. Eventually, legislation was introduced to permit emergency allocation of supplies in the event of another disruption. While some shipments of western crude were made to Canada's east coast by way of the Panama Canal, the government's longer-term solution to the problem was an extension of the Interprovincial Pipeline to Montreal. Since the Western industry was already operating at capacity, supplies to Montreal had to be diverted from elsewhere. Thus crude oil exports to the United States were to be reduced to zero in 10 years. The NEB had already begun to adopt a more restrictive position on natural gas exports, and this policy was to continue as well.

As a short-term reaction to the situation and from a national perspective, the plan had much to recommend it. The reservation of domestic oil for domestic use did reduce the threat of supply disruption and decrease Canada's dependence on imported supplies. The price freeze provided some stability while the market power of OPEC was being tested. It also provided temporary insulation against the stagflation that was affecting other countries, although many would now argue that the approach was too gradual and of doubtful efficacy. As a rent-collection device, the package was superb. The export tax captured all of the economic rent on remaining shipments to the United States. The use of these receipts to subsidize oil imports into eastern Canada complemented the price freeze on domestic oil consumed west of the Ottawa Valley. Together, these measures spread the rent across the country and kept it from accumulating in the hands of the multi-national oil companies and the Western provincial governments. Since Alberta's revenues would not rise as rapidly as they would do in the absence of the freeze, equalization entitlements, and hence federal obligations, would not rise as rapidly either.

The problem with the 1973 program was that from longer-term and Western provincial government perspectives the measures were inappropriate. Freezing oil and gas prices for lengthy periods worked against the desired

goal of energy self-sufficiency. Canadians continued to waste valuable petroleum supplies long after other nations were implementing conservation measures. Exploration and development, particularly development of frontier and non-conventional supplies, were not encouraged precisely when they were most needed. Canada's long-term energy requirements would not be met with \$3.80-a-barrel oil. To Western Canadians, the policy seemed discriminatory. It addressed one energy sector and ignored others, such as hydro, although special arrangements were eventually made for synthetic oil plants.

Reaction in the producing provinces was immediate. In order to capture the economic rents and reassert their constitutional rights of ownership, the provinces scrapped existing royalty agreements and imposed a higher royalty based on a sliding scale. Much of what the provinces gained, the federal government lost, since the increase in companies' deductions for royalty payments reduced the income-tax base. The federal government responded, in 1974, by disallowing deductions of royalty payments for purposes of calculating corporate taxable income and ending a number of other long-standing tax breaks to the oil industry. The result was a squeeze on producer profits and a threatened flight of capital, whereupon both levels of government drew back somewhat. While the compromise did not restore the deduction for royalties, it provided a special "resource-allowance" deduction in its place. Overall, taxation of the industry was somewhat reduced.

The following six years provided a period of relative calm. Canadian oil prices moved in a series of steps toward the world level, and every adjustment but one was agreed to by both parties. (See Figure 12-4, below.) By 1978, the Canadian price was more than 80 per cent of the world price. The federal government, Alberta, and Ontario acted together to ensure that the Syncrude operation proceeded as planned. With the help of federal subsidies, the Interprovincial Pipeline was extended to Montreal. Ottawa implemented *ad hoc* revisions to the equalization formula to restrict entitlements arising from growing Western energy revenues.

In retrospect, it is clear that over these years Canadian energy policy was developing into a long-term strategy. It was also becoming less discriminatory toward regions. The question remained, however, whether this new rationality could stand the test of another dramatic increase in world oil prices.

The National Energy Program

The next chapter in the story of Canada's energy policy is a dramatic one. World oil prices doubled in 1979–80. The Canadian price dropped from 80 per cent of the world price in 1978 to 45 per cent by 1980. The 1973 energy-policy dilemma had to be faced anew. Economic efficiency suggested that Canadian prices should follow international prices upwards, and the producing provinces echoed this notion. But the federal government had as yet no formal mechanisms in place with which to capture part of the economic rents that this price movement would generate. In spite of excluding one-half of non-renewable resource revenues from the equalization formula in 1977, the federal government would not be able to meet the full amount of the increase in equalization entitlements that would arise from a substantial

increase in the rents collected by the Western provinces. Moreover, federal officials were again worried about the inflationary effect of allowing an energy price increase of the extent demanded. They also wished to keep energy prices below world levels in order to give the Canadian manufacturing sector a competitive advantage in world trade and, in any event, once again to soften the adjustment shocks for both labour and capital.

After intensive negotiations between federal and provincial governments and the public and private sectors and after two federal elections, the Government of Canada unveiled the National Energy Program (NEP) at the same time that it disclosed the federal budget, in October 1980. Ottawa's solution was a bold one. The program had three stated objectives: security of supply through ultimate independence from the international market; Canadianization of the industry through increased domestic ownership; and fairness in the determination of prices and the assignment of revenues. These objectives were pursued in several ways. First, Ottawa unilaterally imposed a schedule that provided for a gradual increase in the domestic prices of oil and natural gas. Under this schedule, Canadian crude oil prices were not to exceed 75 per cent of world price, though some major projects were excepted. Natural gas prices were to be tied to oil prices, on a ratio of 65 cents to the dollar, in order to encourage substitution of gas for oil in eastern Canadian markets. This policy did redistribute Western petroleum rents across the country, in keeping with the "fair share" objective of the NEP. Some observers argued, however, that it encouraged consumption and discouraged exploration and development, a policy directly at odds with the NEP's self-sufficiency goal.

The second major feature of the NEP was a host of new and complex taxation measures designed to increase federal revenues from the oil industry. These measures included the Petroleum and Gas Revenue Tax (PGRT), the Natural Gas and Gas Liquids Tax (NGGLT), the Petroleum Compensation Charge (PCC), and a Canadian Ownership Charge. The first tax was a flat levy of 8 per cent on net operating revenue—not net income—from oil and gas production; the 1981 Canada-Alberta Agreement increased this levy to 16 per cent. The tax on natural gas was a flat levy per million cubic feet, so that it, too, bore no necessary relationship to producer income. The Petroleum Compensation Charge was a standard excise tax designed to raise revenue to cover the cost of subsidizing the importation of expensive off-shore crude oil into eastern Canada. The Canadian Ownership Charge was a similar levy on petroleum products. Its purpose was to finance takeovers of foreign oil companies.

The NEP also made substantive changes in the incentive structure. The consumer was offered inducements to substitute natural gas for oil and to undertake energy conservation measures such as home insulation. Producers were offered direct subsidies for exploration and development activity, the Petroleum Incentive Payments (PIPs), which would replace depletion and "super-depletion" allowances. The NEP extended preferential treatment to firms on the basis of their degree of Canadian ownership, and to activity carried on offshore and in the Territories ("Canada Lands") rather than in the provinces. It also made provision for the federal Crown oil company,

Petro-Canada, to take over one or more of the large multi-national oil companies operating in the country, with the help of the "Canadianization" levy. Finally, the federal government reserved for the Crown a 25 per cent interest in development rights on Canada Lands, including pre-NEP discoveries (the so-called "back-in provision"). This provision was controversial and much debated, but it was not without a history or precedents in the evolution of land-management arrangements. In 1961, for example, the federal government had introduced the Canada Oil and Gas Lands Regulations, which established tests for granting leases based on Canadian ownership, and which provided for the surrender to the Crown, on a chequerboard basis, of a sizeable portion of the area of any oil or gas discovery.

The NEP did attain many of its objectives. It moved Canadian energy demand away from oil to substitutes, particularly natural gas; it gradually increased prices for Canadian oil and gas; it distributed economic rents throughout the country; it encouraged extensive exploration in frontier areas; and it created opportunities for more extensive Canadian ownership of the petroleum sector in frontier areas and for participation of Canadian firms in exploration from which they had previously been shut out by the multi-nationals. To many observers, however, federal policies seemed overly concerned with the costs of adjusting to higher energy prices and too little concerned with realizing the potential economic benefits. Many Westerners saw the NEP as a policy that slighted their region and its interests.

The ten months following the announcement of the NEP provided one of the low points in federal-provincial relations. Alberta reacted to the NEP by reducing deliveries to eastern Canada. Ottawa responded by implementing a special excise tax to cover the cost of additional imported oil. Alberta also held up progress on an oil-sands project, in an effort to strike at federal concerns about self-sufficiency. The Canadian public was the loser in the dispute, and in the end it was public opinion that forced the two governments to resolve their differences.

The September 1981 Agreement and After

Agreement between Alberta and the federal government was reached in September 1981. Oil prices were still to be set by government rather than in the market-place, but they were now to rise substantially faster than they had risen under the NEP. The 75 per cent ceiling on "old" oil was retained, but oil from recent discoveries and non-conventional sources was guaranteed the international price. Existing taxes underwent considerable adjustment, and a new tax was introduced: the Incremental Oil Royalties Tax. The Petroleum and Gas Revenue Tax was restructured and its rate increased to 16 per cent, but new deductions reduced the effective rate to 12 per cent. The tax on exports of gas and gas liquids was reduced to zero; in exchange, Alberta took over the PIP program in that province. The NEP's special provisions for new and non-conventional oil were retained.

The new agreement was important in several respects. It established that Alberta and the other Western provinces were willing to turn over substantial

amounts of oil and gas revenue to other Canadians. The Western provinces would turn these revenues over directly, through special federal taxes on petroleum, and indirectly, through agreeing to accept less than world prices for their output. The agreement explicitly recognized the link between prices and incentives for exploration and development, and it re-established the practice of setting price and taxation arrangements by negotiation and agreement.

The NEP and even the September 1981 agreement were based on highly optimistic price projections. Almost before the ink was dry on the 1981 accord, international oil prices began to slip. Consequently, neither revenues nor drilling activity developed as expected. In the face of soft oil markets, both Alberta and the federal government adjusted prices and taxes. The domestic price of old oil rose above the 75 per cent ceiling, and by the fall of 1984, more than 50 per cent of Canadian production was receiving the international price. In 1985, the federal government and three Western provinces agreed to dismantle crude-oil price controls and allow oil to follow world prices.¹ Under this agreement, a more market-sensitive price system for natural gas is to be implemented later in 1985. In addition, the fiscal regime is to be adjusted downwards in hope of stimulating exploration and development.

Prospects

Energy Use

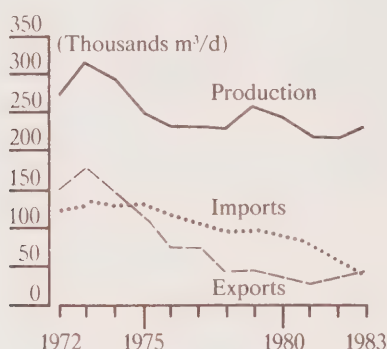
As Table 12-14 (below) shows, oil accounted for nearly 32 per cent of primary energy demand in Canada in 1983. Natural gas accounted for another 18 per cent. Oil's share is down by more than 10 percentage points from 1973, but the natural gas share has remained roughly constant. Primary consumption of oil and natural gas in Canada varies across regions, depending on the availability and relative prices of competing energy sources. In the Atlantic region, oil accounts for over two-thirds of energy consumption, although there has been a shift over the past decade in favour of hydroelectricity and coal. In Quebec, off-oil substitution has been particularly marked: oil's share of consumption declined from nearly 56 per cent in 1973 to 38 per cent in 1982. The shift has been largely to hydro-electricity, which now accounts for 56 per cent of Quebec's primary energy consumption. In Ontario, where oil accounts for 35 per cent of energy demand, its share has declined by only 5 percentage points over the same period. The significant shift in Ontario has been the increase in the share of nuclear-generated power at the expense of hydro-electricity. In the Prairie provinces, oil's share has changed relatively little. In Saskatchewan and Alberta, there has been a decline in the share of natural gas and an increase in the use of coal in electricity generation. In Manitoba and British Columbia, hydro-electricity is the largest source of energy.²

Oil

Domestic production of crude oil, including synthetics and pentanes plus, is lower than it was in the early 1970s, as Figure 12-2 shows. Figure 12-3

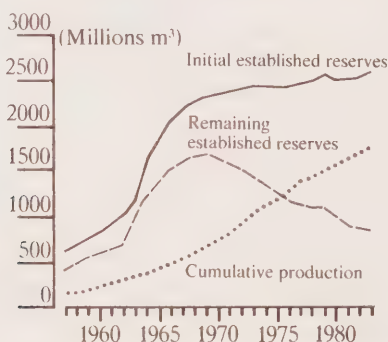
demonstrates that production of conventional crude oil has consistently outstripped additions to reserves since the late 1960s. Over 70 per cent of the 1983 average daily crude oil output of 241 500 cubic metres was conventional light oil; conventional heavy oil and supplies from non-conventional sources made up the balance. Alberta produces over four-fifths of Canadian oil, and Saskatchewan contributes nearly all the rest.

FIGURE 12-2 Production and Trade of Crude Oil and Equivalent, Canada, 1972-83



Source: Based on data from Energy, Mines and Resources Canada. Taken from Economic Council of Canada, *Connections: An Energy Strategy for the Future* (Ottawa: Minister of Supply and Services Canada, 1985), p. 33.

FIGURE 12-3 Established Reserves and Cumulative Production of Conventional Crude Oil, Canada, 1957-83.



Source: Based on data from the Canadian Petroleum Association. Taken from Economic Council of Canada, *Connections: An Energy Strategy for the Future* (Ottawa: Minister of Supply and Services Canada, 1985), p. 31.

A net exporter through most of the 1960s and the early 1970s, Canada became a substantial net importer by 1975. As Table 12-13 indicates, however, trade in crude petroleum and fuel oil was roughly in balance again by 1984. This balance was the result both of a continuous decline in imports and of an increase in exports. The vast majority of our crude oil exports go to the United States; they earned \$1.8 billion (net) in 1982. Venezuela, Mexico, and Iran supplied 63 per cent of Canada's total imports in 1983.

The growth rate of energy consumption during the 1970s has been declining in the world as a whole as a consequence of OPEC's success at raising oil prices. During the 1960s, consumption expanded at an annual average rate of 6.0 per cent; in the 1970s, that rate was only 3.1 per cent.³ It is expected to continue to grow only slowly over the next 20 to 30 years. Generally speaking, the more recent the projections, the lower are the anticipated growth rates. Most countries are expected to continue to move toward greater self-sufficiency in energy and to rely increasingly on alternative sources of energy. The National Energy Board's projection for Canada to 2005 shows an increase, recorded in Table 12-14, in the importance of natural gas, hydro, and nuclear power, at the expense of oil. The primary basis for this projection is an assumption that these other energy sources will be cheaper than oil. As we indicated earlier, and as Figure 12-4 illustrates, Canadian oil prices have remained well below international prices over most of the past decade. In recent years, however, the gap between domestic and international prices has been closing, and the present Canadian government approves of a move to parity.

Like estimates of future energy consumption, estimates of future world oil prices have become more moderate since the 1970s. In September 1984, the National Energy Board offered two scenarios: under its low-price scenario, there would be no real increase in the world price of oil before 2005; under its high-price scenario, which allowed for such events as an escalation of the

TABLE 12-13 Canadian Trade in Energy Products, 1984

	(millions of dollars)		
	Imports	Exports	Balance
Natural gas	—	3 886.4	3 886.4
Crude petroleum	3 375.6	4 390.5	1 014.9
Fuel oil	962.3	—	—962.3
Coal and other crude bituminous substances	1 095.2	1 846.6	751.4
Other petroleum and coal products	608.8	3 192.7	2 583.9
Electricity	—	1 378.7	1 378.7
Radioactive ores and concentrates	—	333.7	333.7
Total	6 041.9	15 028.6	8 986.7

Source: Statistics Canada, *Summary of External Trade* (December 1984) Cat. No. 65-001 (Ottawa: Minister of Supply and Services Canada, 1985).

**TABLE 12-14 Current and Projected Fuel Shares
in Primary Energy Demand in Canada**

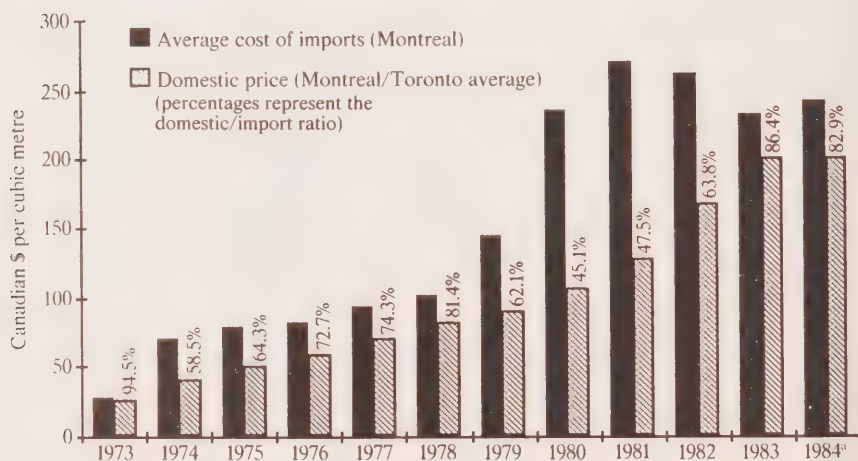
	(percentages)	
	Primary Energy Demand ^a	
	1983	2005
Oil	32	21
Gas	18	21
Coal	10	10
Nuclear	5	11
Hydro	28	31
Other	7	6
Total	100	100

Source: National Energy Board, *Canadian Energy: Supply and Demand 1983–2005*, Technical Report (Ottawa: NEB, 1984), p. 101.

a. Hydro and nuclear are converted at 10.5 petajoules per terawatt hour.

Middle East War between Iran and Iraq, there would be annual real-price increases of 2.5 per cent from 1983 to 1990, and of 2.4 per cent from 1990 to 2005.⁴ Energy developments must be planned with these more modest price increases in mind.

FIGURE 12-4 Canadian Crude Oil Prices 1973–84



Source: Canada, Energy, Mines and Resources Canada, *Energy Statistics Handbook* (Ottawa: The Department, 1984).

a. Average prices to second quarter.

Future Canadian demand for oil is difficult to predict with any certainty: it will depend on the rate of economic growth, the extent of the continuation of conservation measures, the amount of excess capacity in the hydro, nuclear and thermal electricity industries, and the pricing policies of these industries. To forecast future oil supply is even more difficult. Many intervenors were cautiously optimistic:

We have opportunities in the frontiers; we have opportunities still remaining in the western Canada basin. Again, to enhance the recovery of oil, there have been initiatives by both governments to make this possible. We have a tremendous resource in the oil sands of Alberta, which, if we put these things in place, [would give us] self-sufficiency. I don't think we would be responsible if we said that the east coast is going to do it or the Beaufort Sea or the Arctic Islands. All of these areas have potential, and we should be working to see which ones benefit us in terms of the industrial spin-offs for Canadians.

(Canadian Petroleum Association,
Transcript, Calgary, November 4, 1983 [vol.41], pp. 8291-92.)

In one respect, the answer to the question of future supply is clear. Our reliance on conventional oil from the Western Sedimentary Basin, including oil from enhanced recovery projects, will diminish. The volume of oil already recovered from this basin is larger than its known and its anticipated reserves. Consequently, non-conventional sources of supply will become increasingly important.

Table 12-15 summarizes the National Energy Board's 1984 projection of changes in the relative importance of the different sources of oil over the next two decades. Synthetic light crude oil, frontier light, and blended heavy crude and bitumen accounted for 28 per cent of total supply in 1983; the NEB expects this figure to swell to 77 per cent by 2005. It also expects conventional light crude to account for less than 25 per cent of Canadian production by the same date.

The Economic Council of Canada has recently assessed the costs of recovering oil from various non-conventional sources.⁵ The figures in Table 12-16 are social costs: that is, the total costs experienced by industry, excluding all taxes and royalties. Estimates that included taxes and royalties would be higher. The Council's study suggests that regardless of the method used to increase Canadian oil production, projects will have to be virtually free of taxes if they are to succeed. Economic rents cannot be extracted if there are none to be had. Yet even projects that yield no economic rents can be of immense benefit to the economy if, while yielding a reasonable return to the operators, they provide employment and produce oil that is competitive with world prices, thus reducing our reliance on imports.

Natural Gas

Table 12-17 summarizes world natural gas reserves and gas consumption. Canada's proved gas reserves of about 3484 billion (10⁹) cubic metres seem immense, but they account for only 4 per cent of proved world reserves. Canadian share of world consumption amounting to 3.3 per cent is also small.

TABLE 12-15 Estimated Sources of Crude Oil Production, 1983–2005

	(thousands of cubic metres per day)		
	1983	1990	2005
Conventional light and pentanes plus	174.1	117.5	49.9
Oil sands synthetic (including upgraded heavy crude)	23.5	42.5	63.5
Frontier	—	1.9	44.0
Total light	197.6	161.9	157.4
Blended heavy crude and bitumen	43.9	39.1	59.2
Total	241.5	201.0	216.6

Source: National Energy Board, *Canadian Energy: Supply and Demand 1983–2005*, Summary Report (Ottawa: Minister of Supply and Services Canada, 1984).

Because of current prices and transportation costs, much of the world's natural gas cannot be marketed at long distances from the source of supply. The huge figures for world reserves suggest that even after the year 2000, when gas prices may be considerably higher than they are now, gas from the Canadian Arctic and other frontier areas is not likely to have any market power abroad except, perhaps, in the United States. Therefore any increase in exports must come primarily from sales to the United States, where our product will have to compete with U.S. gas and alternate sources of energy.

Unlike our reserves of conventional oil, our established reserves of natural gas have increased almost continuously since the Second World War. (See Figure 12-5.) Canada's domestic sales of natural gas rose substantially during the 1960s, but they have remained fairly constant since the early 1970s. Exports of natural gas to the United States have followed the same pattern. At present, Canadian gas accounts for approximately 4 per cent of total U.S. gas consumption. Because the United States' own capacity for production exceeds current domestic demand, and because Canadian export prices are higher than U.S. domestic prices, we have been able to sell, in recent years, only about 40 per cent of authorized export volumes. Since November 1984, in an effort to bolster these sales, the federal government has permitted greater flexibility in gas-export pricing, and the matter of domestic and export-pricing policies is under study.

Additions to reserves in the United States are, however, unlikely to keep pace with future demand in that country. Consequently the NEB expects that by 1987, gas exports to the United States will reach 68 per cent of committed volumes. By 1990, they will be up to 90 per cent of authorized sales.⁶ Annual export revenues in the peak years are expected to reach \$7 to \$8 billion, more than double the current revenues.

TABLE 12-16 Summary of Social Supply Costs^a for Alternate Oil Supplies

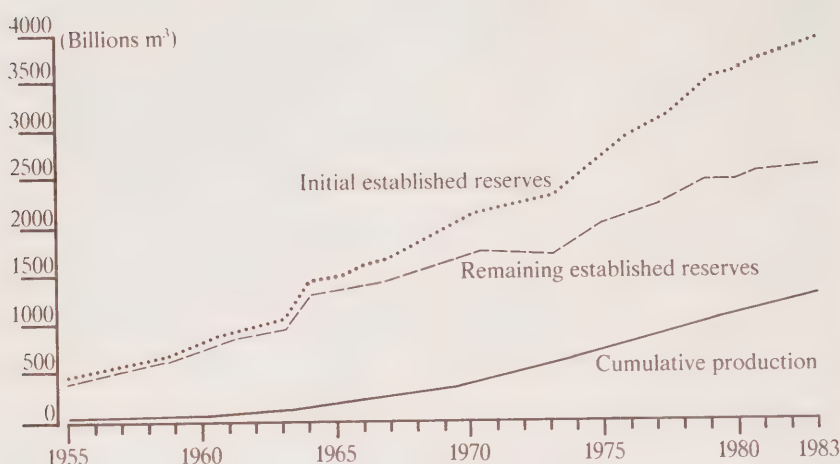
Source	Social Supply Costs (\$1983 per barrel)	Comments
Western Canadian conventional light oil	\$16	Although risk and costs are relatively low, supplies are limited, even with the New Oil Reference Price. Reductions in taxes could expand additions to reserves beyond National Energy Board forecasts.
Western Canada enhanced oil recovery from existing known reserves	\$13-25	Some projects are profitable; others will be quite marginal under existing price and tax regimes. Lower taxes would enlarge the number of profitable projects.
Large-scale surface mining of oilsands to produce synthetic high quality oil	\$47	Based on Alsands data. High financial risk.
<i>In situ</i> oilsands production of bitumen (without upgrading)	\$28	Wolfe Lake data; still at experimental stage.
East coast Hibernia oil	\$15	Delivered to Montreal. Costs count <i>only</i> the development and production stages, so this source is not fully comparable to other sources of supply because exploration costs are not included. High technological risk (including iceberg problems, for example).
Beaufort Sea oil (assuming a commercial discovery)	\$15-40	Delivered to Montreal. Costs count <i>only</i> the development and production stages, so this source is not fully comparable to other non-frontier supply sources. Considerable environmental risk.

Source: Adapted from David H. Slater, "Submission" by the Chairman of the Economic Council of Canada to the Standing Senate Committee on Energy and Natural Resources, May 24, 1984.

a. Social supply costs = total costs experienced by industry excluding all taxes and royalties. Calculations based on 10% rate of discount.

Whether we will, in fact, increase our U.S. exports and export revenues to this extent depends on a variety of circumstances, including future gas-pricing policies in the United States, the extent of new reserves discovered there, the rigour of future U.S. clean air legislation and enforcement, and the extent to which other exporters to the United States, such as Mexico, reduce their export prices.⁷ Although the United States did not object to Canada's partial

FIGURE 12-5 Established Reserves and Cumulative Production of Marketable Natural Gas, Canada, 1955-83



Source: Based on data from the Canadian Petroleum Association. Taken from Economic Council of Canada, *Connections: An Energy Strategy for the Future* (Ottawa: Minister of Supply and Services Canada, 1985), p. 57.

deregulation of export prices when it was introduced, the prospect of growing imports, at a time when U.S. demand for gas is not increasing, has since raised concern about Canadian competition in that country. U.S. demand is so nearly static that it now appears unlikely that the Alaska Natural Gas Transportation System (ANGTS) will be used in this century to move Alaskan gas to the lower 48 United States.

Gas-export growth will also depend on the Canadian supply situation. According to projections released by the Canadian Energy Research Institute (CERI) in early 1984, surplus gas from non-frontier sources – that is, gas from these sources that will not be committed under existing licenses or required for domestic consumption – will be available for export up to the early years of the coming century. Projections published by the NEB in September 1984 indicate that Canada's conventional reserves alone are sufficient to sustain export growth until at least 2000.⁸ Surplus supplies from the Arctic and from offshore projects might allow us to increase our gas exports for a few years longer.

These projections assume that future returns to producers will be high enough to stimulate exploration and development. In recent years, however, drilling for gas in Canada has declined substantially: in 1983-84, estimated exploratory and development gas-well drilling was only 40 per cent of the 1976-80 average. The decline had several causes: the difficulty of increasing exports to the United States, a slow-down in the growth of domestic demand owing to the recession, mild winters, fierce competition from electricity utilities, and a decline in gas producers' net revenues. Some of these causes, or similar ones, could affect supply growth in the future. For example, any

TABLE 12-17 World Natural Gas Reserves and Consumption (1982)

	Proven Reserves (10 ⁹ cubic metres)	Percentage of World	Consumption (10 ⁹ cubic metres)	Percentage of World
OPEC	28 834.9	33.3	69.4	4.5
North America of which Canada	8 359.5 3 484.3	9.6 4.0	575.3 50.7	37.5 3.3
Western Europe	4 243.5	4.9	207.1	13.5
Eastern Europe of which U.S.S.R.	35 169.0 34 514.6	40.6 39.8	541.1 445.6	35.2 29.0
Other	10 098.9	11.6	143.1	9.3
Total world	86 705.9	100.0	1 535.4	100.0

Source: Adapted from Bijan Mossover-Rahmani, "The OPEC Natural Gas Dilemma", in *Proceedings of the International Gas Markets Conference*, edited by Shane S. Streifel (Calgary: Canadian Energy Research Institute, 1983).

Note: Canadian reserves are from NEB estimates. Canadian consumption figures are from NEB estimates.

significant increase in the value of the Canadian dollar relative to the U.S. dollar would depress our export revenues and therefore discourage drilling.

New export licenses are granted only if current reserves exceed the sum of commitments under existing export licenses, plus 25 times the present year's domestic demand for gas. Some observers argue that the requirement of 25 years' domestic supply inhibits exports unduly. Others defend the requirement, arguing that supply from conventional sources will satisfy projected domestic demand and existing export contracts for some 20 years only, that alternative supplies from the Arctic will be substantially higher priced, and that gas is cleaner than coal and safer than nuclear power.

One prospect beyond the U.S. market should be mentioned: the export to Japan of Canadian Arctic gas in liquified form. Japan expects liquified natural gas to make up about 13 per cent of its total energy demand by 1990-95 and is moving ahead with plans to import it from a number of countries. The Japanese anticipate that Canada will supply about 6 to 8 per cent of their gas imports between 1990 and 1995.⁹

A New Energy Framework

Encouraging Future Supply

The most important energy issue facing Canada is that of future supply. How shall we meet our energy needs, particularly our need for oil, over the next 20 to 30 years? What portion of our needs can we reasonably expect to supply from Canadian sources? And what policies must accompany whatever

objectives we set for ourselves? The question facing policy makers is not whether we have oil and gas. We clearly do. What we do not know with any certainty is the extent to which it will be profitable to develop new sources of oil and gas under the economic conditions that are expected to prevail over the next two to three decades. The ultimate issue is whether the economic incentives will be sufficient, or can be made sufficient, to encourage the industry to meet the targets we set.

An Economic Council of Canada study published before the 1985 energy accord was struck shows the effects of price deregulation under various taxation regimes.¹⁰ It concludes that deregulation of oil and gas prices would encourage substitution of gas because of the change in relative prices that would follow. On average, oil imports would decline by about 9 per cent per year over the period 1985–90, and total oil demand would fall by an estimated 4 per cent. Demand for natural gas, on the other hand, would increase by nearly 13 per cent. On the supply side, the Council's results suggest that the deregulation of oil and natural gas prices would stimulate domestic oil production and exploration over the next few years. Gas production would also increase, but gas exploration and development would decline.

The Council also considered the results of simultaneous price deregulation and modification¹¹ of the Petroleum and Gas Revenue Tax (PGRT); it found another significant positive effect on discoveries of oil and gas reserves. Under price deregulation alone, additions to oil reserves would average 2.3 per cent per year between 1985 and 1990; under price deregulation plus modification of the PGRT, additions would average 8.4 per cent annually. Gas-exploration activity would still fall under the latter regime, but by only 3.8 per cent, instead of by 6.6 per cent.

Prices and taxes are only the most obvious determinants of exploration and development activity. Two other factors are important as well. One is the regulatory regime that governs the industry. The other is the stability or predictability of any administered prices, taxes and regulations. The following sections review each of these factors in turn, setting out Commissioners' recommendations for public policy.

Crude Oil Pricing. The first longer-term issue is the relationship that Canadian oil and gas prices should bear to the international price. The determination of prices for Canadian oil and natural gas has rarely been left to market forces alone. The National Oil Policy of the 1960s, by keeping foreign crude oil out of Ontario and the West, pushed prices in those regions higher than they would otherwise have climbed. Since 1973, the federal government has set prices below the world level.

A number of submissions to this Commission held that Canada should continue to keep domestic petroleum prices below world prices. The rationale for this policy was the argument that the world price is an artificial one, based not on international costs of production, but rather on an exercise of market power by a few oil-producing nations. Commissioners disagree with this argument. The world price is the real opportunity cost for Canadian supplies, even if it is only the "artificial" creation of OPEC's market power.

The difference between the world price and the domestic Canadian price is the value that is forgone every time a barrel of oil is consumed domestically rather than sold abroad. Likewise, it is the cost of replacing this same oil if we are forced to turn to the international market. To assign any price to oil other than the world price is to distort both supply incentives and demand incentives as well.

Accordingly, Commissioners recommend that Canadian crude regularly be sold within Canada at world prices. We welcome the recent "Western Accord", an agreement between the federal government and three Western provinces, which adopts this policy. In extraordinary circumstances, however, we would reserve to governments the right to put a temporary freeze on domestic petroleum prices. There are real economic costs involved in forcing Canadians to make a sharp adjustment if it is only to be reversed shortly thereafter. Given a sharp upward movement in the world price, such as occurred in 1973-74 and in 1979-80, a temporary freeze or sliding scale of prices should be contemplated. Similarly, if the OPEC price were to tumble dramatically, we would be well advised to keep a floor under the domestic price through a tariff or import-pricing regime. Even then, the decision to depart from world prices should only be taken by federal-provincial agreement. If it became clear—as clear, at any rate, as these things can ever be—that the price rise or decline was permanent, we would have to be prepared to see our prices follow the international ones.

This recommendation does not mean that Canada must necessarily sacrifice marginal frontier or non-conventional operations. It simply means that we should not use artificially high prices to support such projects. If we judge continued development of these projects to be valuable, as we would under currently foreseeable circumstances, and if international price trends are rendering them increasingly unattractive, other measures are available to support them. For example, governments could defer royalties and taxes on a given project until that project achieved a reasonable rate of return, or they could provide tax credits or other subsidies.

Natural Gas Pricing. It is not possible to make such a simple recommendation for natural gas pricing. Because there is no international market for gas, such as there is for oil, there is no handy reference price. There are two separate markets for western Canadian gas: domestic sales and exports to the United States. Prices within Canada have been set so that gas selling at the Toronto "city gate" has cost approximately 65 per cent of the price of crude oil. The price paid to producers, however, was an Alberta border price, set by federal-provincial agreement. Any difference between the two, beyond transport costs, has been made up by federal taxes or subsidies. Since November 1984, export prices have been set by negotiation between gas exporters and customers, but they can never be less than the Toronto level. The Western Accord requires the implementation of a more flexible, market-sensitive pricing mechanism by November 1985, and this direction is one Commissioners endorse. Our recommendation is that natural gas prices be allowed, over time, to find their own levels in *both* domestic *and* export markets. This policy will entail a substantial deregulation of gas markets over

a period of years, both at the producer and the consumer ends of the system. In particular, there would be no attempt to set the price of gas in relation to the price of oil. Given the relatively greater endowment of natural gas as compared with oil from conventional producing regions and given, too, the competitive markets for gas in the United States, it is likely that natural gas prices will continue to be lower than oil prices. To assure more flexibility in the domestic market, more large consumers should be encouraged to buy directly from Western producers. This shift will be facilitated if the pipeline companies carry such gas under no more onerous tariffs and conditions than those which apply to their own gas.

The current system of export regulation, under which the National Energy Board monitors supply and demand in Canada and approves export sales negotiated privately, should remain in place. Although the Western Accord does not deal with this issue, we would expect it to become an important one in 1985. Security of supply should remain an important objective, but the reserve period, presently standing at 25 years, should be re-evaluated now and periodically in the future.

Taxation and Subsidies. As our historical review has shown, the gas and oil sector has been the target of a bewildering succession of federal and provincial tax and subsidy schemes. A number of intervenors argued that the present range of such programs is confusing, inappropriate and unfair, and that the federal-provincial disputes it engenders are harmful to the industry and, ultimately, to the country.

Under the terms of the National Energy Program and the Federal/Provincial Energy Agreements of 1981 and 1983, the oil and gas industry has been subjected to a heavy burden of taxes and royalties and does not receive the full price for the largest portion of its oil production. These government policy decisions reduce the confidence of industry investors and impair financing capability for investments. Industry should not be faced with discriminatory taxes which other forms of energy are not required to pay.

(Canadian Gas Association, Brief, December 1, 1983, p. 7.)

The third area I would like to touch on is the area of incentives. Again, these have changed from being income tax related incentives to the grant form. Whatever one may say about the grant form, it produces far more capability on the part of the government giving the grant, to direct who will get the grant and where the grant will be spent, than an income tax related system of stimulation does. So, there has been a pronounced movement in recent years from a system of encouragement of exploration and development of energy in this country that was primarily related to the tax system, and therefore had a very commercial economic analysis and bias connected with it, to a system that was a good deal less dependent on normal economic analysis.

(R.R. Latimer, TransCanada PipeLines Limited, Transcript, Ottawa, December 15, 1983 [vol. 72], p. 15107.)

The constitutional division of resource jurisdiction has resulted in deepening rifts and confrontation between governments and industry and has harmed

Canada's economic performance. Oil and gas sector activity has particularly suffered from this situation.

(Canadian Petroleum Association, Brief, October 24, 1983, p. 7.)

It is time to establish some basic principles with respect to taxation and subsidy of the petroleum industry, to develop a system that is compatible with these general precepts, and to make a commitment to leave the new system as it is for the foreseeable future, barring any disruptive developments. Commissioners therefore propose three principles to govern taxation of the oil and gas sector. The provinces' rights as landlords must continue to be recognized. The treatment of the oil and gas sector under the tax system should not differ from the treatment of any other non-renewable resource industry. Taxation above a minimal provincial royalty should be based on profits rather than on the value of production.

This Commission specifically recommends that:

- The producing province would continue to levy an incentive-based royalty to reflect the compensation due to the owners of a non-renewable resource, up to a maximum level set by federal-provincial agreement. Royalty payments would be deductible as business expenses for the purposes of calculating corporate income tax. The present system, which does not permit the deduction of royalty payments from income for tax purposes, and which specifies a special resource allowance as a general deduction, would be scrapped. Royalty payments would be the province's first, but not its only, claim on the industry's revenues. We would suggest that the royalty level be lowered: the collection of rents by governments must be based largely on profits, rather than on output volumes and gross revenues, if the development of marginal supplies is not to be discouraged.

If the provinces were to agree to an incentive-based royalty approach, it would follow that the income-tax share would increase at the expense of the royalty share. As noted below, some adjustment in the division of revenue between the two levels of government may be required.

Commissioners further recommend that:

- Governments collect the remainder of their share of the rent in the form of corporate income taxes, both provincial and federal. Taxes on the value of production would be avoided. We welcome the phasing-out or elimination of such forms of taxation as those announced in the Western Accord. Deductions permitted would be royalty payments up to the agreed maximum and the business expenses normally allowed in other industry sectors. These would include operating expenses (including exploration expenses) and an amortized portion of all capital costs, including acquisition and development costs. Depletion, earned or otherwise, would not be deductible. Deductions not used in any tax year could be carried forward. To promote exploration and investment in the petroleum industry, unused deductions arising from exploration expenditures or investment in the industry would result in refundable tax credits, replacing the Petroleum

Incentive Payments (PIP) system being phased out under the Western Accord.

- There be provision for a temporary windfall-profits tax to be levied, after agreement with the provinces concerned, in the event of a major disruption in international oil markets.
- With respect to non-conventional petroleum resources and conventional resources outside the Western Sedimentary Basin (including heavy oil and oil sands, tertiary recovery of conventional resources, Beaufort near-shore and on-shore, and eastern offshore), we believe some continuing "tilt" in incentives is appropriate on two grounds: regional economic development and security of supply. Accordingly, as PIP is phased out, a more modest incentive ought to be introduced in the form of a refundable tax credit for exploration. This measure would both encourage exploration generally and allow smaller firms to participate in frontier and non-conventional projects. As we said earlier, where the continued development of such projects is deemed to be valuable to Canada, and where international price trends are rendering these projects increasingly unattractive, we believe that taxation and royalty levels should be adjusted downward or that refundable tax credits, royalty or tax holidays, or other forms of subsidy should be made available.

The Regulatory Environment. The petroleum industry operates under a wide variety of regulatory provisions. This plethora of rules was described to Commissioners at our public hearings:

The following quotes from the annual report of a very successful small Canadian oil company illustrates the degree of present day frustration with government intervention . . . NEP, FIRA, PIP, APIP, EDIS, DDIS, SOOP, COOP, NORP, IORT, COGLA, PGRT, NGGLT, COSC, and on and on it goes. This list of unintelligible acronyms is only a sample of government taxes/programs presently active in the oil industry. The interference and increased involvement by both levels of government over the past 10 years has been crippling.

(Formula Growth Limited, Brief, October 24, 1983, p. 3.)

In any sector, the subject of regulation imposes a dilemma. In isolation, each requirement or condition is nearly always eminently justifiable; taken together, however, regulations can become an insurmountable barrier to the progress of a given project. There is no simple solution to this problem. Commissioners can only enter a plea that governments make their regulations as simple and as inexpensive to implement as possible. We provide some suggestions below, in our review of environmental regulation, about the streamlining and co-ordination of regulations.

A final point is in order here. We Canadians must recognize that if a project dies because it fails to meet regulatory procedures (assuming these are properly designed), its death is natural and not to be impeded. Regulations are meant to stop marginal ventures; not every blocked proposal signifies regulatory overload.

Predictability. The best policies in the world can be harmful if the industry cannot assume that they will be in place long enough to allow it to calculate and compare expected returns from particular resource projects. Commissioners were told that:

In the oil and gas industry the policy . . . has been very, very unpredictable. The oil and gas industry is one that requires a stable, clear, long-term policy for development.

(F. Gordon Dixon, Transcript, Calgary, November 7, 1983 [vol. 41], p. 8337.)

Other intervenors addressed the issue of predictability in the following terms:

Major energy projects have a long 10–30 year, planning horizon best supported by a fiscal regime of royalty, and other taxes and incentives which [are] relatively predictable but flexible and adaptive to changing business circumstances. Alteration of the “rules of the game” at frequent 2–3 year intervals in response to short term shifts in public policy and cyclical world energy situations only serves to increase uncertainty and add to project development risk.

(Dome Petroleum Limited, Brief, October 25, 1983, p. 5.)

What is needed [in the energy sector] is a combination of long-term goals, which enjoy a wide-spread consensus among the key sectors of our community (governments, the petroleum sector and consumers), and short-term adaptability in terms of tactics so that we can respond quickly to a changing energy environment. Short-term pragmatism will allow us to react in a timely manner to changing circumstances while a longer-term strategy will prevent us from over-reacting to new circumstances.

(Petro-Canada, Brief, November 15, 1983, pp. 9–10.)

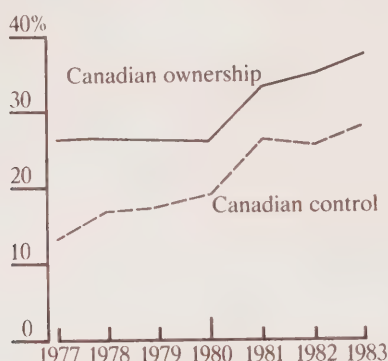
Commissioners can make but one recommendation here, and it is the obvious one: Governments must establish a simplified taxation and regulatory regime and leave it in place. They should alter it only in unusual circumstances, and only after consultation with those affected and with other orders of government.

Canadianization. Another major issue is the extent to which the country wishes to continue to pursue the goal of Canadianization of the oil and gas sector. The NEP set a target of 50 per cent domestic ownership by 1990. In order to achieve this goal, the federal government instituted a special Canadian Ownership Charge and scaled PIP grants in favour of Canadian-owned companies.

The results of the Canadianization measures can be gauged from Figure 12-6. Canadian-owned firms accounted for about 38 per cent of petroleum industry reserves in 1983, compared with about 27 per cent in 1977. Figures on control are lower, but the rate of increase is even higher. The changes reflect the greater participation in the industry of companies that were already locally owned, as well as some high-profile take-overs of foreign companies.

The costs and benefits of foreign ownership are considered in general terms elsewhere in this Report. The question here is whether a special case can be

**FIGURE 12-6 Ownership and Control of the Petroleum Industry,
Based on Petroleum-Related Revenues, Canada, 1977-83**



Source: Based on data from the Petroleum Monitoring Agency. Taken from Economic Council of Canada, *Connections: An Energy Strategy for the Future* (Ottawa: Minister of Supply and Services Canada, 1985), p. 22.

made for encouraging Canadian ownership in the oil and gas sector. We Commissioners think that it can. A secure supply of oil and gas is vital to a country's well-being, yet the international petroleum market-place has been dominated by OPEC, whose interests are often at odds with those of Canada. Furthermore, it would be dangerous to leave our fate entirely in the hands of multi-national oil companies. The actions of Canadian-owned firms—especially public firms—are more likely to be consistent with expressed Canadian goals. In addition, it is a matter of national pride to have a robust domestically-owned presence in this high-profile international sector. For these reasons, this Commission favours tilting both the land-tenure system for Canada Lands and the incentives system in favour of Canadian firms, to the extent that that policy is compatible with our international obligations.

Revenue Sharing

The final major issue is the question of the division of economic rents between the federal government and the provinces. As Commissioners have already indicated in our review of taxation, we recommend that the producing province be given first pass at the economic rents by virtue of its status as landlord. Thereafter the two governments would share taxation revenues as they would share those from any other sector: through the complex of corporate and excise taxes already in place.

The question remaining is how much lower will be the maximum level of royalties to which the federal government and the producing provinces will agree so that royalties may be deductible for federal income-tax purposes. Any recommendation on this score must be tied to federal government responsibilities in the area of equalization payments. If energy revenues are to be more fully equalized than they are now, the federal share must be

increased to reflect this fact. If not, there is a case for letting the provincial share rise instead. We refer the reader to Part VI for further discussion and recommendations.

Conclusions

Canada's oil and gas sector has, not surprisingly, dominated national discussion of resources over the past dozen years. The sector is fundamental to the functioning of any modern economy and so large in Canada as to make a major difference in setting a wide variety of public policies, whether directly related or not. At the time of writing this Report, the sector is once again the focus of major reform, although to date, no legislation has been presented to Parliament or to provincial legislatures.

This Commission has given the oil and gas sector a good deal of attention and has presented for consideration as a long-term policy a new energy framework based on the principles of efficiency, fairness and predictability. This new framework is designed to accomplish two particular objectives: to allow the energy industry to make a full contribution to Canada's economic development; and to put in place a system sufficiently resilient that future shocks, which will inevitably come, will be absorbed more easily than they have been in the past.

Notes

1. In March 1985, the federal government and three Western provinces signed an accord which is to form the basis for a major reform of the National Energy Program. At the time of writing this Report, the accord has not been translated into legislation. Government of Canada, *The Western Accord* (Ottawa, 1985).
2. Economic Council of Canada, *Connections: An Energy Strategy for the Future* (Ottawa: Minister of Supply and Services Canada, 1985), p.103.
3. World Bank, "Price Prospects for Major Primary Commodities" (Washington, D.C.: World Bank, Economics and Research Staff, 1984), vol. 5.
4. National Energy Board, *Canadian Energy: Supply and Demand 1983-2005*, Technical Report (Ottawa: NEB, 1984).
5. David, Slater, "Submission" by the Chairman of the Economic Council of Canada to the Standing Senate Committee on Energy and Natural Resources, Ottawa, May 24, 1984.
6. National Energy Board, *Canadian Energy*, p. 64.
7. *Ibid.*, pp. 62-65.
8. *Ibid.*, p. 67.
9. Shun-Ichi Shimizu, "Characteristics of the Japanese LNG Market and Keys to Success in LNG Projects", in *Proceedings of the International Gas Markets Conference*, edited by Shane S. Streifel (Calgary: Canadian Energy Research Institute, 1983).
10. Economic Council, *Connections*. The Council assumed that world oil prices would remain stable; projections would change slightly under a different world price.
11. Modified PGRT "becomes a tax on production revenues, net of operating costs and of investment expenditures on oil and natural gas exploration, development and production in each year." (Economic Council, *Connections*, p. 182). The 1985 Western Accord specifies removal of the PGRT.



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The Environment, Society and the Economy

The review of global prospects at the beginning of this Report included an agenda of significant environmental issues that the citizens and the policy-makers of the world must confront in the years ahead. The items on that agenda—forest depletion, the greenhouse effect, acid rain, soil degradation, nuclear waste, the extinction of species, water quality—touch, in some way, every aspect of this Commission’s mandate. The present section examines the nature of the environmental challenges that Canadians face, the effects of our rising awareness of those challenges, and the institutional means available to us for meeting them.

The Environment: Changing Attitudes and Responses

The International Dimension

Canada’s status as a prominent middle power has been sustained in no small measure by our contributions to international initiatives related to the environment, particularly those associated with the United Nations. Canada’s participation in the multi-session United Nations Conference on the Law of the Sea (UNCLOS) is one such contribution. The inclusion in the 1972 United Nations Declaration on the Human Environment of two important legal principles put forward by Canada is another:

States have . . . the sovereign right to exploit their own resources . . . and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction.

States shall co-operate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such states to areas beyond their jurisdiction.¹

Recent developments in multilateral trade negotiations offer another example of the growing importance of environmental concerns in traditional economic areas at the international level. A perception that some environmental protection standards may be disguised attempts to restrict import competition is at least partially responsible for the Code of Conduct for Preventing Technical Barriers to Trade (the Standards Code) that emerged from the Tokyo Round trade negotiations. The code requires its signatories not to use environmental, health, safety and consumer-protection standards to create unnecessary obstacles to international trade. Application of the code will not be easy. The question of whether a given regulation is an "unnecessary" barrier to trade is, of course, a matter of judgement. Moreover, many environmental standards are set, not by national governments, but by provinces (states) or municipalities. For this reason, the code requires central governments to use "such reasonable means which may be available to them"² to see that other jurisdictions within their boundaries adhere to its principles.

As a prosperous nation that occupies an extensive portion of the earth's surface, Canada has a major responsibility in many areas of environmental concern. Because the effects of human activity on the global environment are often cumulative and long-term, and because so many causes of environmental damage and degradation operate across national boundaries, this responsibility extends beyond the life of the present generation and beyond the boundaries of our own vast land. The measure of our civilization will be determined in no small part by the extent to which we live up to our responsibility at home and continue to offer assistance and leadership abroad.

The Environment versus Economic Growth

Many observers argue that measures taken to protect the environment often work at the expense of economic performance. According to this view, the competitiveness of Canadian firms is inhibited by the costs of compliance with domestic environmental standards, especially where these standards exceed the requirements that firms face in other countries. Concerns are often raised about the delays associated with obtaining environmental approval for projects, sometimes from several jurisdictions with differing standards. A further common complaint is that environmental controls reduce employment by diverting capital from "productive" investment to non-essentials. Particularly when economic growth is slow, as it has been recently, environmental controls can retard new capital investment, including investment in more environmentally sensitive technology, or discourage it altogether. These criticisms have not gone unremarked; the last few years have seen a decline in real per capita government spending on research and compliance.

In this Commission's view, efforts by industry to improve its short-term competitive position by avoiding or delaying environmental and resource-management costs simply defer these costs or leave them for the public to assume in the form of government expenditure, ecological damage, or forgone earnings and lost options. The lack of attention to reforestation illustrates this

point only too well. Canadians must establish an accounting approach that recognizes all of the costs of economic activity, however difficult it may be to express some of these costs in dollars. As the representative of the Saskatchewan Environmental Society remarked to this Commission:

The gross national product is, in a sense, a false measure of how far ahead we have been able to get because it does not take into account such things as depleted soils and the cost of restoring them [or] contaminated food chains and the health effects.

(Saskatchewan Environmental Society, Transcript, Saskatoon, November 21, 1983 [vol. 48], p. 9869.)

It will be essential in the decades ahead to integrate environmental decisions and economic decisions, for there is, in Commissioners' view, no ultimate conflict between economic development and the preservation and enhancement of a healthy environment and a sustainable resource base. We agree with the similar conclusion expressed in the *European Community's Environmental Policy*:

*The desire to avoid imposing additional costs on industry has led to a reluctance on the part of some Community governments to agree to tougher pollution controls, land-use requirements and curbs on potentially dangerous materials or production processes. The tangible short-term costs to the economy of such measures have all too often outweighed the frequently intangible and longer-term benefits to society of a healthier environment and substantial longer-term economic costs of failure to prevent pollution.*³

The Environmental Challenge: Changing Perceptions

Environmental issues first became a matter of general concern, in Canada and elsewhere, in the 1960s. Over the years, the definition of these issues has become increasingly broad and complex. The initial focus of concern was local pollution: that is, site-specific, single-source, environmental problems, the causes and effects of which were relatively easy to identify. The devastation of a stretch of English seashore that resulted from the sinking of the oil tanker *Torrey Canyon* in 1967 is a familiar example of a problem of this type. Such "classic" pollution problems are now widely recognized, and efforts have been made to bring them under control. While disasters of the *Torrey Canyon* variety are still all too possible, we have at least improved our techniques for cleaning up after them. On land, factories that spew out black smoke are less equably tolerated now than they were in the past, and emissions have been made subject to ever-more-careful monitoring. Nevertheless, many factories continue to pollute the air, just as oil spills and deliberate dumping continue to contaminate the oceans.

The 1970s brought growing concern about our capacity to manage the earth's resources on a sustainable basis. The first oil crisis of 1973 and the Club of Rome's study *Limits to Growth*⁴ made major contributions to global awareness of potential resource depletion and launched an important continuing debate. If "running out" was the problem – and there was serious dispute on this point – "finding more" or "using less" were the solutions. The

“conservator society” movement, stimulated in Canada by the work of the Science Council of Canada and by energy-conservation projects such as Prince Edward Island’s Ark, was one response to the depletion challenge. Renewed alarm about the state of Canada’s forests was another.

The 1970s also saw the emergence of a distinction, though by no means an absolute one, between the problems of pollution and the far more complex and difficult problems of long-term hazard which, at their worst, may be both unquantifiable and irreversible. The events at the Three Mile Island nuclear generating station and at the Bhopal chemical plant in India dramatically illustrate problems of the latter kind. Occupational health and safety issues, such as the possibility of detrimental effects of video-display terminals (VDTs) on the unborn, introduce similar concerns into the daily lives of ordinary Canadians.

The problems of long-term environmental hazard are less well understood and more difficult to remedy than the problems of “classic” pollution. The causes and consequences of long-term hazards are less readily linked, and the problems tend to be more serious as the example of chemical contaminants that pose carcinogenic and mutagenic threats demonstrates. Long-term contaminants tend to have a variety of sources and are difficult to identify, partly because they are often present only in trace elements. For this reason, they often accomplish serious damage before their presence is noticed or their effects are determined. Even when their presence has been confirmed, they are more difficult to break down or neutralize than the more familiar pollutants. Indeed, the damage wreaked by many kinds of long-term contaminants is irreversible: as far as human knowledge extends, once done, it cannot be undone. The effects of the long-term hazards tend to be more widely dispersed geographically and are more significant ecologically than the effects of simple pollution. The damage done by an oil spill is primarily local and of relatively short duration; but the destructive effects of acid rain are obviously international and may persist for decades.

Thus, while the environmental issues of the 1960s and early 1970s usually involved the management of non-persistent pollutants from industrial and municipal sources, the focus now is on environmental damage that threatens the long-term sustainability of the planet.

Environmental Values and the Environmental Movement in Canada

Canadians’ changing perception of the environmental challenge at once reflects and reinforces changes in our values, aspirations and expectations. Before the 1960s, interest in conservation centred on the efficient management of resources for consumption. While concern about the efficient use of resources persists, the old emphasis on consumption has yielded considerable ground over the past quarter-century to a new emphasis on “the quality of life”. According to this new reckoning, the environment is a source, not of wealth alone, but of other, less tangible satisfactions as well. Moreover, abuse of the environment is seen to threaten not only our prosperity, but also our health, our safety and, ultimately, our society.

If the environmental movement of the 1960s was vulnerable to the criticism that it reflected the aesthetic preferences of affluent North Americans whose interest in preserving threatened landscapes and endangered species was not always representative of world public opinion, it is considerably more difficult to dismiss current expressions of concern about the environment, which emphasize health and safety issues and which often arise from a strong sense of obligation to future generations. The importance of these issues is difficult to quantify; it is impossible to disregard. Indeed, some would argue that a firmly entrenched environmental consciousness is becoming a basic characteristic of Canadian society. Certainly, as Canadians' view of the environment changes, opposition to public policies that address the environment declines. It is now more common to hear arguments—even economic arguments—in favour of environmental protection measures than it is to hear arguments against them. From the environmental hearings of the past decade has emerged a sense of the importance of integrating economic and social concerns, of seeking both managed economic development and a high quality of life.

Public participation is increasingly significant at every stage of environmental decision making, from the definition of issues to the selection of policies. The Canadian environmental movement has its roots in the 1960s, when neighbourhood associations, concerned citizens' committees, and individuals began to work actively to identify the environmental consequences of industrial activity. Meanwhile, many communities directed their attention to matters such as municipal waste disposal sites, contaminated swimming beaches, non-returnable containers, and littered campsites and portage trails. With the realization that environmental problems were wide-ranging in their effects, local associations gradually formed larger and more formal groups in order to express their concerns in broader forums. The formation of Pollution Probe at the University of Toronto in 1969 was a particularly significant landmark in the evolution of environmental interest groups in Canada. Many less widely-known organizations came into being in the same period, and some existing organizations, such as camping associations and naturalists' groups, added environmental issues to their traditional concerns. Today, the environmental issues of concern to Canadians are often articulated by "coalitions" and "umbrella" groups that operate at the national and provincial levels, while local associations continue to perform important practical and educational functions.

Government Responses to Environmental Issues

Since the 1960s, Canadian governments have responded to the problems of the environment with both legislative and institutional reforms. Government did not start with a blank slate: remedies to some types of environmental abuse were already available either under common law or under existing resource-related statutes.⁵ However, the new response was distinctive both in the prominence it accorded environmental matters and in the form it took. In the period from 1968 to 1972 alone, Parliament enacted several significant pieces of environmental legislation, including the Canada Water Act, the

Clean Air Act, the Arctic Waters Pollution Prevention Act, and the Northern Inland Waters Act. It also added new environmental provisions to the federal Fisheries Act and the Canada Shipping Act. In 1971, the federal government created the Department of the Environment, in order to consolidate in one ministry all agencies responsible for environmental protection, management and research. In most provincial jurisdictions, too, environmental regulation and institutions became matters of increasing priority during this period.

Today, the range of measures employed by governments to discourage or constrain conduct that is harmful to the environment includes educational programs and guidelines, regulations governing standards and licensing, prohibitions and sanctions, financial incentives, and reporting requirements. This Commission's interest here is not in the details of individual environmental programs, but rather in the ability of our system of environmental management to respond to emerging environmental concerns and evolving public values.

The success of educational measures directed at the general population or at particular industries is not easy to assess. By extending awareness of environmental issues and the availability of remedial measures, educational initiatives may contribute indirectly to environmental protection. On the other hand, the educational approach has been criticized because it can be used as a substitute for stricter measures and more practical actions. Exhortations, voluntary guidelines and good behaviour standards do suffer the obvious limitation that compliance places the "responsible" corporate citizen at a disadvantage in relation to competing firms.

Regulation is widely used both by the federal government and by the provinces to modify or control environmentally harmful conduct through standard setting. The federal Fisheries Act, for example, permits the minister to designate substances "deleterious" and to prohibit their discharge either into the sea or into interprovincial inland waters unless the operator has obtained approval. Similarly, the Clean Air Act authorizes the federal government to establish national air-quality objectives and to regulate emission standards at an air-pollution source. Expert sub-committees of the Federal-Provincial Committee on Air Pollution define "desirable", "acceptable" and "tolerable" levels of national air quality and develop objectives for the control of major contaminants such as sulphur dioxide and nitrous oxides.

To set general standards through regulation is often an administratively simple way of dealing with non-persistent pollutants. Nevertheless, this approach has been the subject of considerable criticism. When a single strict standard is applied uniformly over an extensive area, the level of environmental protection provided may be higher in some regions than a site-specific assessment would require.

Non-statutory policy and review procedures are an important part of environmental decision making. The Environmental Assessment and Review Process (EARP), which the federal Cabinet established in 1973, has no statutory basis. Its purpose is to ensure that the likely environmental effects of federal programs and of projects that involve federal money or land are

taken into account in the earliest stages of planning. EARP operates in two phases. First, the agency responsible for the project determines whether the project is likely to have significant environmental consequences. If it is, then a panel of experts appointed by the Federal Environmental Assessment and Review Office (FEARO) and the Department of the Environment undertakes a public review, including hearings, of a detailed impact-assessment document which the proponent agency has prepared in accordance with guidelines specified by the review panel. Since 1974, EARP has reviewed several major federal projects. In the view of some critics, EARP is little more than the voice of the federal government's ecological conscience, since its authority is based on moral suasion rather than on statutory force.

The limitations of the approaches outlined above have stimulated thinking about new methods of environmental decision making and about ways to integrate this process more effectively with the planning activities of public and private actors. Experiments with environmental mediation have been carried out, notably in the United States, with a view to reducing the costs of conflict resolution and facilitating the participation of a wide range of interested individuals and groups. Such "alternative dispute-resolution" techniques do have attractions in some circumstances. Questions persist, however, about the choice of interests that should be involved in the process and the identification of those persons who can most effectively represent them. Moreover, the permanence of mediated environmental agreements may be uncertain, since it depends on the ability of the parties involved to monitor and enforce compliance, through the courts if necessary.

More than one observer has proposed the introduction of an environmental bill of rights for Canada as a means of ensuring for citizens the maintenance of a safe and clean environment in which to live and work. The authors of one work on the environment list a number of principles that might be embodied in such a bill of rights:

- The right to a healthy and attractive environment
- The right to use the law to defend the environment in courts and tribunals
- Environmental impact studies
- Access to information
- Public participation in setting environmental standards
- An environmental ombudsman
- Class actions
- The right to defend the environment at a reasonable cost
- Restrictions on agency decisions
- Judicial review of administrative action
- The burden of proof to be on the pollutor.⁶

Dissatisfaction with the effects of many existing regulatory approaches to pollution has prompted some economists to urge that more market-oriented policies be used to control environmental damage. They suggest that in certain circumstances, options such as fees for the right to discharge effluents would be both more effective and more economically efficient than regulation. An "effluent charge" is basically a payment per unit of pollution

discharged from a designated source. An "effluent-rights" program would involve a distribution of the rights to discharge pollutants, based on an understanding of total allowable pollution emissions from all sources in a particular jurisdiction. The rights could be distributed by means of an auction, or they could be assigned on the basis of emissions from existing sources. Such rights could then be transferred at prices determined by the relationship between the total rights available and the demand for those rights.

The Dynamics of Environmental Policy Making

The multiplicity of forms and agencies of government intervention in environmental management demonstrates the complexity of our Canadian governments' responses to public concern with environmental protection and standards. A brief examination of the dynamics of the policy-formation and implementation processes will reinforce that impression of complexity.

Information, scientific, technological, economic and regulatory, is vital to the environmental-protection process. Obviously, effective pollution control requires a measurement of pollution. For example, an agency responsible for water quality must translate criteria for fishing, recreational use and safety into standards for, say, suspended solids and biochemical oxygen demand. In order to set totals for allowable emissions, the agency must also determine the absorptive capacity of the water. Where there are several sources of emissions, the agency must devise a system for assigning individual quotas, the sum of which will not exceed the allowable total. It may be necessary to adjust totals and quotas as new information becomes available, since many of the effects of pollutants reveal themselves only after a long interval.

The scientific information required for effective environmental control is costly and difficult to accumulate and evaluate. It takes continuous effort simply to gather the base-line data needed to improve our understanding of the interaction of environmental and industrial processes in the circumstances peculiar to Canada. Scientific information must not only be gathered; it must also be made accessible to concerned parties: researchers, industry representatives, environmental groups, and the general public.

Like scientific information, information about the regulatory process and its results is difficult to obtain and to assess. Very little environmental regulation consists of across-the-board rules or standards. For the most part, the regulatory apparatus consists of discrete, and usually confidential, agreements made with individual firms, by federal or provincial departments, at the discretion of the minister. While environmental interest groups have tried to monitor environmental regulation, their resources are far too thin, and the decision-making arenas are far too numerous, to permit them to act as an effective third presence.

Both industry and environmental interest groups are given to deploring the complexity of the environmental-regulation process. This complexity is especially evident in project- and product-approval procedures, which often involve hearings. The time between the initiation of a proposal for a major

resource-development or industrial undertaking and the date the project comes on stream is significant to the proponent, whose expenditures during this period must be financed from other revenue sources. Extended and costly hearings are therefore a source of considerable concern and frustration, particularly when approval must be sought from more than one jurisdiction. Regulatory "lag" is thus often said to deter economic development, particularly where major projects are concerned.

Environmental interest groups, too, derive considerable frustration from the hearings process. The fragmentation of the process among several jurisdictions may deflect attention from major issues by emphasizing technical particulars. Moreover, the burden of participation in the assessment process is often severe, a circumstance that emphasizes a difficulty widely familiar to public interest groups: the "free-rider" problem. Environmental interest groups find it much more difficult to secure permanent membership, and hence resources, than do producer interests and manufacturing associations. The reason is that non-members can obtain the benefits of the environmental groups' activity without having to contribute to it. Consequently, environmental groups, which by definition have a stronger institutional interest in environmental performance than have other kinds of organizations, face extraordinary obstacles in trying to promote and monitor environmental issues. When one adds to this fundamental weakness the fact that there are numerous venues for decision making, the extreme difficulty of the task that such groups undertake becomes apparent. Commissioners do not mean to suggest that none of the other participants in the environmental/economic equation have a serious interest in environmental improvement. Obviously, they do. But the reality is that private companies, and indeed governments, vary widely in their degree of commitment to the environment.

The free-rider problem and the complexity of the regulatory process make it clear that environmental decision making suffers from serious institutional weaknesses that should be addressed. This Commission sees a need for greater public funding of environmental groups so that they can serve as a more continuous presence in environmental hearings and in monitoring and compliance activity.

It will be a delicate undertaking to design a decision-making process that permits a sufficient degree of public participation and yet avoids excessive regulatory "lag". For major projects, which almost always require the approval of more than one government, a key reform would be movement toward a single joint-hearings process. Another important reform would be the establishment of the federal government's environmental assessment process on a statutory basis. Obviously, there would have to be some limit to the applicability of such a statute; otherwise, any project, however minor, that involved federal property or federal financing could not proceed without hearings. The answer to this problem would be to define a threshold: for projects of less than a certain size, assessment would not be compulsory.

While, in some instances, the decision-making process consumes too much time, in others it does not consume enough. Environmental issues often exhibit great technological complexity and provoke considerable scientific

debate. One advantage of consolidating the review procedures of two or more jurisdictions is that more time would be available for the proper exposure of technical and scientific controversy. The assessment process must not only give more time to such controversy; it must also develop better procedures than it now possesses for clarifying and resolving it. In clarifying the scientific debate, such procedures would also expose the economic and political motives that often underlie "scientific" arguments. A more intense and exacting hearings process would probably be more time consuming than the present arrangements, but the decisions it produced would be better informed and therefore less costly, at least in the long run.

Concerns about the complexity and uncertainty of the environmental protection process also arise in connection with day-to-day compliance and enforcement procedures. Governments' failure to develop consistent approaches to compliance, to standards for assessing performance, and to shifting economic conditions contributes to the difficulty of sustaining overall progress in environmental matters.

Critics of the present regulatory system argue that Canadian governments cannot possibly be neutral regulators, considering that their own Crown corporations are often the promoters of projects that are under regulation. Some observers believe that even now the American regulatory regime is superior to the Canadian regime, since the former provides more opportunities for private litigation and involves the possibility of stiffer penalties. Others see the American arrangement as a recipe for costly and excessive procedural wrangling throughout the regulatory and judicial systems.

Many observers also object to government's avoidance of universal compliance and enforcement standards in favour of individual – and generally confidential – agreements with companies. A case could be made that individual agreements are necessary, since no two industrial projects have precisely the same effect on the environment. Many of the objections to such agreements could be overcome by a system of very stiff penalties that would be known publicly, and that would come into effect automatically if compliance failed to materialize. Alternatively, there could be somewhat milder penalties and a requirement that compliance schedules be made public.

A brief examination of two industries will illustrate the mechanics of regulation under existing formulae. In the pulp and paper industry, the basis of regulation is the determination of an allowable effluent requirement for each mill. The federal government and the provinces share jurisdiction, although their concerns are different: the federal government has authority over fish, the provinces over water.

The federal authorities prescribe allowable levels of effluent for the component processes relevant to each mill, while the provincial guidelines are based on the mill's attributes and the absorptive capacity of the water. In both areas, the guidelines give little, if any, consideration to the costs of compliance. A reasonable degree of co-operation exists between the two levels of government, which generally agree to recognize the more stringent of the two sets of guidelines. For the past two decades, the federal government has granted special capital-cost allowances for pollution-abatement equipment in

existing plants. In 1979, approval of adequate provision for pollution abatement was a condition for receiving special financial assistance under a joint federal-provincial program. Apparently, these have proved to be weak incentives.

Our second example concerns the sulphur dioxide emissions from Inco's smelter at Sudbury, Ontario. After passage of the Ontario Air Pollution Control Act in 1967, Inco was required to build a new taller stack to replace three shorter chimneys. Sulphur dioxide emissions were to be reduced to 4716 tonnes per day by July 1, 1970; to 3991 tonnes per day by December 31, 1974; to 3265 tonnes per day by December 31, 1976; and to 680 tonnes per day by December 31, 1978. Inco could not meet the third target, and extensive negotiations followed. In 1980, the province issued a new directive that imposed an immediate limit of 2267 tonnes per day; emissions were to be reduced to 1769 tonnes per day by 1983. Inco officials asked why the guidelines issued were so optimistic, since performance is bound to be judged with reference to those guidelines. Perhaps, they suggested, the regulators had significantly overestimated the economic prospects of the industry. Then it became clear that strict enforcement of the Air Pollution Control Act might put some pulp and paper mills and smelters out of business.

Obviously, the tailoring of compliance guidelines to fit the economic circumstances of each mill or smelter leads to variations in the quality of air and water at different sites, and to an uneven responsibility for the costs of environmental improvement. In the extreme, marginal mills or smelters are not expected to take any action; profitable operations are. New mills face tougher standards than old ones. Some commentators have even argued that existing producers sought the tailoring of requirements and subsidies through accelerated capital-cost allowances because that approach would give them an advantage over possible entrants.

These examples show that there is considerable "give and take" as the regulator and the regulated enterprise seek to balance environmental and other goals. The complexity of the regulatory task calls upon all of the devices of governing: the carrot, the stick, persuasion and public information. The key to success is to devise a combination of decisions that produces sustained implementation, which is the result of real changes in behaviour. All participants in the environmental issue have now had more than a decade of experience: although there has been progress, we have seen that sometimes both governments and private firms have been able to pull back from earlier levels of commitment. It is for this reason that Commissioners support a movement toward the consolidation and the legal entrenchment of the many forums in which environmental decisions are made.

To attain the goal of sustained implementation also requires that a new political and economic maturity be applied to the use of policy devices such as effluent charges. This is not to argue that the levying of effluent charges is in itself a sufficient solution to the problem of pollution. Rather, this Commission argues that when used with other policy instruments, the levy can contribute to sustained improved behaviour. Effluent charges internalize the costs of pollution to the company involved and give the firm practical incentive to change its economic behaviour.

The interaction of scientific, institutional and economic factors in environmental policy making and implementation subjects these complex processes to many forms of discontinuity. Decisions about investment in environmental research can be influenced by many unrelated factors. Regulatory processes do not operate consistently, or they take place in several forums, taxing the patience of the participants and inhibiting effective exposure to, and analysis of, fundamental issues. Compliance and monitoring efforts are subject to modification in accordance with the shifting budgetary concerns of government and industry. All of these phenomena are natural enough in what is still an early stage of our progress towards proper maintenance of the environment. If it is true, however, as Commissioners believe it is, that there is no long-term conflict between economic growth and environmental concerns, and if it is also true that decisions which affect the environment generally look to the short term, then there must be some permanent arrangement for monitoring decisions of these sorts. Otherwise Canadians cannot be sure that decision makers are, in fact, taking them along a long-term path that they broadly support.

It is in this sense that environmentalists are right in calling for a form of "non-GNP" social accounting that captures some non-economic indicators of well-being. Having made this statement, Commissioners must also acknowledge that agreement on what a system of environmental monitoring should include will not be easy to achieve. The basis for such a system could be an independent national body equipped with the scientific expertise to identify existing and potential hazards and to lay the groundwork for preventive action. The monitoring system could embody national, regional and sectoral environmental criteria: it would monitor pollutants and hazards of high national or regional priority, large bodies of water, and major companies and Crown corporations in each sector.

Notes

1. Cited in Canada, Environment Canada, *Conference on the Human Environment* (Ottawa: Information Canada, 1972), p. 10.
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3. *The European Community's Environmental Policy*, 2d ed. (Luxembourg: Office for Official Publications of the European Communities, 1983), p. 19.
4. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, and William W. Behrens III, *The Limits to Growth*, a report for the Club of Rome's Project on the Predicament of Mankind (New York: Universe Books, 1972).
5. Related issues are surveyed in D. Paul Emond, "Environmental Law and Policy: A Retrospective Examination of the Canadian Experience", in *Consumer Protection, Environmental Law and Corporate Power*, vol. 50, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
6. David Estrin and John Swaigen, *Environment on Trial: A Handbook of Ontario Environmental Law*, rev. ed. (Toronto: Canadian Environmental Law Research Foundation, 1978), Chapter 21.

Canada's Environmental Agenda

Several major environmental issues merit special reference here because of their importance, and because a long-term commitment must be made if they are to be resolved. Solutions will require both prompt action and sustained effort, and neither will be easy to achieve. Commissioners set out this agenda as our contribution to increasing Canadians' awareness of the importance of dealing with a series of very large environmental issues on an urgent basis. We have not, however, been able to delve deeply enough into items on this agenda to recommend specific solutions. Such action is beyond the scope of our mandate.

As human capacity to alter the environment has grown, humanity has too often abused the natural world in which we all live. The potential for wide-ranging environmental catastrophes that would seriously harm global habitats is growing. In these circumstances, how much do we wish to gamble? As people usually learn best through experience, convenient ways for us to achieve our immediate economic ends are frequently at odds with nature and natural processes. We must read the preliminary signs of environmental damage quickly and try to take wise action. Sometimes, however, even by the time that the visible signs of environmental deterioration are detected, they may represent processes which are well advanced and almost impossible to reverse.

We have reviewed, in Chapter 2, major problems threatening the earth's ecological systems. Of the problems outlined, we would single out acid rain, other forms of air pollution, hazardous-waste disposal, water quality and forest conservation as areas for immediate attention by Canadian governments, corporations and citizens. Other environmental issues of special significance in Canada include the restoration of the Great Lakes, the export of water, the preservation of Canadian wildlife, and protection of the Arctic.

Acid Rain and Other Forms of Air Pollution

Canadians are experiencing a host of air-pollution problems as a result of the combustion of fossil fuels in power plants, factories and automobiles. Acid rain is causing large-scale destruction of forests, streams and lakes. Levels of ozone in the atmosphere are already high enough to damage valuable crops such as corn, wheat and soybeans. Gaseous sulphur and nitrogen oxides are known to cause serious damage to paint, paper and textiles, and to contribute to the erosion of building stone. Possibly the most serious consequence of fossil-fuel combustion is the long-term accumulation of carbon dioxide (CO_2) in the atmosphere. Scientists expect the build-up of this substance to raise global temperatures significantly by the middle of the next century. These developments pose complex, systemic, environmental threats requiring a co-ordinated institutional response. Canada's experience with acid rain shows how difficult it is to evoke such a response. Because acid rain, ozone and the build-up of carbon dioxide in the atmosphere are problems with a common origin, they are also susceptible to common solutions. Strategies to date most often address issues in isolation. Present control systems for reducing emissions are expensive, but not prohibitively so. If we procrastinate, however, effective action may be beyond the capacity of future generations.

The Great Lakes and Water Management

The Great Lakes provide an unequalled natural endowment for Canada: the largest chain of freshwater lakes in the world, containing 18 per cent of the total amount of fresh water on earth. At present, one in three Canadians and one in seven Americans depend on the Great Lakes for their water supply. Currently, water demand on these lakes amounts to 140 000 litres per second. A Board of the International Joint Commission (IJC) predicted, in a report issued in 1981, that demand could rise to one million litres per second by 2035, an amount that could result in a dramatic drop in the water level of Lakes Michigan, Erie and Huron. This development would occur because most of the renewable supply of fresh water in the Great Lakes—that is, water that falls as rain and snow and passes through the Great Lakes system—is already in full use. A permanent lowering of lake levels would create economic losses amounting to hundreds of millions of dollars annually. In light of predictions of lower demand for water and forecasts of lower growth for the economy generally, the IJC has recently stated that estimates beyond the year 2000 are unreliable. It does, however, believe that water quantity *is* an issue in Canada, and that demand for water should be monitored carefully.

Water quality has, of course, long been a problem for Canada, particularly in the Great Lakes basin. Canadians appear to be firm in their demands for tougher legislative standards to protect the quality of drinking water, yet Quebec is the first province to enact legally-enforceable standards for quality. In the years since Canada and the United States signed the 1972 Great Lakes Water Quality Agreement, significant achievements have been recorded, particularly in the point-source control of phosphorus and a number of other conventional urban and industrial pollutants. Nevertheless, substantial efforts have not eliminated the serious pollution problems in the Great Lakes. Unfortunately, little progress has been made in 18 population centres identified by the IJC in 1981 as exhibiting significant environmental degradation. There has also been limited success in coming to grips with the overall problem of toxic chemicals poisoning the Great Lakes basin. New chemicals are continually being introduced into the water. Even if only a few are harmful, it is becoming more and more apparent that their individual, combined and long-term effects do present serious environmental problems. The International Joint Commission has questioned the adequacy of present environmental risk-assessment techniques and the degree of confidence placed in them. It has also urged both the Canadian and the American governments to increase their efforts to support a co-ordinated and well-researched strategy to reduce the use of toxic substances and to pay serious attention to the development of monitoring methods for groundwater resources in the Great Lakes region.¹

The Great Lakes Water Quality Agreement (1978) is a milestone document because it was one of the first international statements that promoted the integration of human activity with the realities of the biota, land, water and air phenomena of the environment. The IJC maintains that because, in many jurisdictions, existing environmental and resource programs

are compartmentalized and spread across several departments, a comprehensive approach requires, at the very least, a reorganization of thinking and, perhaps, a reorganization of institutional arrangements.

It is important that Canada increase vigilance over acid rain and the monitoring of the quality of the Great Lakes and other major river basins and lakes. It is equally important that we put in place more comprehensive plans for preserving the ecology of our river basins and coherent regulatory arrangements for water use and management, in particular, for waters north of the sixtieth parallel. The lack of a management framework for water, along with water-pollution and conservation issues, were the dominant concerns in submissions to the Inquiry on Federal Water Policy.² To manage water resources is not an easy task. Costly infrastructure generally requires long-term commitments to water availability, and allocations among users involve many trade-offs. To develop a master plan for this handling of a fundamental resource may involve a repetitive and slow consultative process, but it must include consideration of the interests and hopes of the current users of the water systems, as well as attention to the maze of federal, territorial, provincial and state jurisdictions governing them.

Water Export and Diversion

Water export from Canada and the transfer of water between drainage basins within Canada are expected to be major policy issues of the next few decades. These issues sparked considerable interest at the recent hearings of the Inquiry on Federal Water Policy. Pressure is mounting to divert or transfer water from and within Canada—particularly from northern Canada and the Great Lakes—to southern Canadian urban centres and the water-short states of the American southwest. There is evidence, however, that water diversions might be avoided if, for example, residents of Canada and the United States take steps to manage water resources more efficiently. One measure worth consideration would be the establishment of a pricing system for water that more accurately reflects its value.

Two water-diversion projects which have been on the drawing board for many years are the \$150-billion North American Water and Power Alliance (NAWAPA) scheme and the \$100-billion Grand Canal Company plan. The NAWAPA scheme was to have dammed rivers in Yukon and Alaska and flooded part of the Rocky Mountain Trench. A canal linking Alberta with the Great Lakes was also part of this mammoth plan. The Grand Canal scheme, which has gained more attention recently, would turn James Bay into a freshwater lake, then channel a portion of its water through various Quebec and Ontario river systems and canals down to the Great Lakes; from there further diversion would be engineered to serve other distant regions of Canada and the United States.

Only one in ten intervenors appearing before the Inquiry on Federal Water Quality spoke of water export as an opportunity. The overwhelming majority rejected, out of hand, consideration of export or added conditions so restrictive as to make approval unlikely for many years. Concern about water

transfers centred on three issues: doubts about economic gains generated by such projects, concern about social disruption and, most strongly, concern about environmental effects.³

The environmental effects of major water diversions would be felt both during and after the construction phase. Disturbance of rivers and lakes could damage or destroy fish habitats and further harm the fish populations by siltation. Flora and fauna around the sites of construction could also be adversely affected, and the permanent loss of agricultural or forest land is a real possibility. Once construction is completed, permanent environmental effects would ensue: flooding or stream-flow reduction, drying up of marshes and lakes, and the transfer of harmful foreign species into river basins. While some effects are predictable, it is impossible to foresee all the environmental effects of a large project.⁴

In 1982, the eight Great Lakes States, along with Quebec and Ontario, produced a resolution that would prohibit water diversions from the Great Lakes basin before thorough impact studies were made and agreement was obtained from all provincial, state and federal governments concerned. In 1985, a Great Lakes Charter was signed by the same governments. It embodied the intent of the earlier resolution and promised further consultation and co-operation in the use of water in the Great Lakes basin. The Government of Canada has supported fully the efforts of Ontario and Quebec in designing this agreement.

The Arctic Environment

Canadians have a rich and diverse northern heritage, a landscape of incredible beauty, fragility and hostility. The ice-covered ocean is of global importance because of its profound influence on world climate. It is also an essential breeding ground and refuge for marine mammals, migratory birds and other wildlife.

In recent decades, the establishment of defence installations, the discovery of oil near and beneath the Arctic Ocean, and increased exploration for mineral wealth brought about the realization that economic development in these regions can quickly become an engineering and scientific challenge of great proportions. The technical problems are real, and our ability to adjust to them depends on how well we understand the characteristics of the rigorous climate of the Arctic environment. Project development in the North must be guided by the dual criteria of environmental soundness and balanced social and economic development.

Fish and wildlife have long formed the basis of the traditional economy and culture of northern Canada's aboriginal peoples. Failure to protect and manage adequately these renewable resources could lead to the collapse both of the northern environment and of the societies associated with it. Although the Government of Canada has talked of "balanced development", not enough has been done to protect areas of outstanding natural significance. A system of protected conservation areas does not exist in our North, even though the legislative capability to form one has existed for several years. Only a few of the 151 ecological sites identified in the International

Biological Program are protected, and there is only one national wildlife area in the North: Polar Bear Pass, designated in 1982.

Seventy per cent of the Canadian coastline, the longest in the world, borders on the Arctic Ocean. We share this marine territory with five other nations. Except for a number of single-purpose bilateral treaties, there is no international agreement defining states' rights and responsibilities in the Arctic Ocean region. Indeed, there is uncertainty about almost every aspect of national jurisdiction in the Arctic Ocean: the location of marine boundaries; the measurement and extent of territorial waters; the status and control of shipping lanes; the limits of the continental shelf; rights to seabed minerals; protection of the environment; and regulation and conservation of the fisheries. Canada's claims to its Arctic offshore must be affirmed and protected by national legislation.

Hazardous Wastes

The presence and safe handling of hazardous wastes is another important issue on our environmental agenda. In addition to a variety of potentially adverse effects on human health, the consequences of chemical contamination of the environment include a loss of food species, curtailment of important economic activities and a variety of irreversible ecological changes that threaten humanity's future use and enjoyment of the living world.

Although some hazardous substances are found in municipal and domestic waste, the majority are residues from the industrial and nuclear power processes. These wastes contain oil, phenols, arsenic, mercury, lead, radioactive materials and a large number of human-made chemicals. Estimates put Canada's hazardous waste production at about one million dry tonnes per year, nearly half of it produced in Ontario. Polychlorinated Biphenyls (PCBs) provide a good example of the insidious threat of these chemical contaminants, as well as the essentially political nature of the decisions required to control them. Because PCBs are extremely mobile, the point where they are emitted has little relation to their danger. PCB compounds have been found in all the oceans, in Arctic bears, in Great Lakes fish, in rainfall and in human beings. It is estimated that more than half of the PCBs produced have been discarded in landfill sites and dumps, in the form of junked plastics, paints and electrical equipment. Contaminants washed out from such sites can enter groundwater or can be carried by rain and snow into nearby streams and rivers, and so find their way into lakes and oceans. Destruction of PCBs is preferable to long-term storage. Numerous technologies exist to destroy PCBs effectively, and many countries have used them. In Canada, however, no facilities exist to dispose of these contaminants safely. The failure of Canada's governments, industries and citizens to agree on the location of such facilities has contributed to the current stalemate.

Canada is indeed entering a period in which environmental damage caused by toxic wastes, the safe disposal of wastes, and the choice of sites for their disposal will constitute a major divisive force in our society. The problem will never "just go away". Hazardous-waste/treatment facilities will have to be built in or near communities, and public resistance will be high. The problem

is compounded by the fact that traditional landfill sites are no longer considered acceptable disposal dumps for these substances. The result is that untreated wastes, some highly corrosive, are being stored in drums and tanks until treatment becomes available. Wastes are also being stored permanently in deep wells where porous rock layers below the water table absorb liquid contaminants. To ship wastes to Canada's "remote" areas is not a solution. Today, even the least-densely populated areas of Canada are someone's backyard.

The ideal system to work towards is one which minimizes production and use of hazardous substances and tracks any that are produced through all stages of use, transport and disposal. Modern treatment facilities are needed. We must move from the present situation of management-by-crisis to management-by-planning. In the long run, to do nothing about the haphazard handling of chemical wastes is far more dangerous than to resort to controlled transport, treatment and disposal. Hazardous wastes and their elimination or disposal constitutes an area where it is clear that increased regulatory procedures, as well as continuing research, are well warranted.

Wildlife Protection

Wildlife and plant life help to provide us Canadians with our daily requirements of food, fibre, shelter, fuel, chemical and biomedical products. Wildlife species are also important as a recreational attraction, for the general economic benefits they provide and for other contributions they make to the quality of life. Economic activity associated with wildlife has been valued by the Canadian Wildlife Association at over \$7 billion in 1977.⁵

The management of wildlife and plant life, and the management of human use of these resources, are complex matters. Because there are a number of different, and sometimes competing, ways in which wildlife is enjoyed and used, the art of management is to provide for the most broadly acceptable mix of activities, taking account of the variety of cultural values and of the paramount need to conserve the resource heritage for future generations.

*Guidelines for Wildlife Policy*⁶ in Canada was developed between 1980 and 1982 by a committee of the Federal-Provincial Wildlife Conference. The *Guidelines* outline three fundamental goals:

- To maintain the ecosystems on which wildlife and people depend
- To preserve the genetic diversity of wildlife
- To ensure that the enjoyment and use of wildlife is sustainable.

Commissioners support these goals, as well as the principles that the cost of management essential to preserving viable populations of wildlife should be borne by all Canadians, and that special management measures required to permit intensive uses should be supported by the users.⁷ Wildlife policies, like air pollution policies, must be broadened from the current single-purpose approach to include, for example, habitat protection and management.

Notes

1. International Joint Commission, *Second Biennial Report Under the Great Lakes Water Quality Agreement of 1978 to the Governments of the United States and Canada and the States and Provinces of the Great Lakes Basin* (Ottawa, 1984).
2. Canada, Inquiry on Federal Water Policy, *Hearing About Water: A Synthesis* (Ottawa, 1985).
3. *Ibid.*, pp. 15 and 50.
4. Anthony Scott, "The Economics of Water Export Policy", in *Canada's Resource Industries*, vol. 14 (Toronto: University of Toronto Press, 1985), prepared for this Commission jointly with the Inquiry on Federal Water Policy, 1985.
5. Estimated by the Canadian Wildlife Federation in 1981.
6. Minister of Environment, *Guidelines for Wildlife Policy in Canada* (Ottawa: Minister of Supply and Services Canada, 1982). The *Guidelines* are based upon the World Conservation Strategy, prepared for the International Union for Conservation of Nature and Natural Resources with the support of the United Nations Environment Program and the World Wildlife Fund.
7. *Ibid.*

Conclusions and Recommendations

Integrating the Environment and Economic Development

Institutional arrangements that are designed to deal with clear-cut disputes or problems are often unsuited to the resolution of environmental issues. More and more, environmental decisions depend on the application of ambiguous or provisional scientific and technical evidence to very long-term questions that involve, or potentially affect, the interests of many parties, not all of whom are even identifiable. Moreover, environmental policy making must also take into account the personal values and aspirations of Canadians, which are even more difficult to quantify, though not less important, than the scientific issues.

Commissioners perceive a vital need to integrate environmental decisions with decisions about economic development. In the process of industrial adjustment, opportunities should not be lost to introduce environmentally oriented technological advances. Environmental concerns should receive sustained attention despite the obvious desire to enhance short-term/growth prospects, for, as we have argued, there is no long-term conflict between economic development and the preservation of a healthy environment and a sustainable resource base. Our perceptions of wealth and well-being ought to incorporate environmental, health, and safety considerations. In other words, environmental goals should not be treated as incidental to the other goals of resource and industrial policy. Commissioners seek a sustainable form of development that acknowledges the interdependence of society, the economy and the environment at both the national and the international levels.

In light of Canadians' tendency to make decisions on the basis of short-term considerations, it is important that we strengthen our institutional capacity to monitor decisions. We must have grounds for confidence that decision makers are actually taking steps consistent with the long-term goals defined by public opinion.

The environmental decision-making process illustrates the difficulty of combining public participation with technical expertise, and of reconciling long-term imperatives with powerful and immediate pressures for short-term economic gains. As we have seen, the results of our decisions must also coincide with important international obligations.

Taking Preventive Measures

- Commissioners recommend greater use of a preventive approach to environmental decision making, an approach that reflects and reinforces the growth in public support for policies that contribute to the regeneration of ecological systems. The concern for environmental values should be incorporated into a variety of decision-making processes, such as those that affect the work-place, the regulation and approval of large-scale projects, and the introduction of new products into the market-place.
- Greater consideration should be given to the development of a combined social and economic accounting system that covers not only the conventional economic indicators, but also such matters as soil depletion, forest

degeneration, the costs of restoring a damaged environment, and the effects of economic activity on health.

Formalizing the Environmental Framework

Although many of our recommendations elsewhere in this Report call for reductions in government intervention, Commissioners believe that the environmental field is one in which greater government intervention will prove to be necessary. Successful intervention will require a significant degree of federal-provincial co-operation. We anticipate, too, over the long term, a quantum leap in the size of the environmental task facing Canadians. If we are to deal ably with this task, we must make more effective use of the significant legislative framework that is now in place.

We therefore recommend that:

- Efforts be made to establish, on a sustained basis, the institutional arrangements through which environmental decisions are made
- Governments give greater emphasis to the scientific and analytical capacity of their environmental departments and increase the resources available for the enforcement of environmental policy
- A national body with a core of independent scientific expertise be created to identify hazards that are, or are likely to become, seriously injurious. It would be the responsibility of such a body, styled the "Environmental Council of Canada", to provide information and advice about hazards that are of high national or regional priority: those, for example, that involve major water systems, significant industrial groups, and the actions of federal and provincial Crown corporations.
- In recognition of the important role that research and development play in support both of the environmental regulatory function and of self-monitoring by concerned private sector businesses and associations, funding should be made available to permit research to be undertaken on a continuous basis.

Environmental Review and Assessment

This Commission recommends that:

- Project-approval hearings be co-ordinated or consolidated as a remedy for the excessive "regulatory lag" that results from multiple-hearings requirements. Major projects, in particular, almost always require the approval of more than one government and, frequently, more than one agency in the same government. Consequently we urge that efforts be made to harmonize requirements when multiple hearings are unavoidable and to develop common federal-provincial-municipal/review procedures whenever possible.
- The federal environmental-assessment process be placed on a statutory basis, and that threshold sizes be established for compulsory project assessment so that for smaller projects, assessment would not be compulsory

- Hearings procedures give greater attention to the effective analysis of technical and scientific controversy, not only to improve our understanding of complex scientific questions, but also to expose more clearly the underlying economic and political dimensions of what sometimes are cast as purely scientific decisions.

Visibility and Participation

Commissioners recommend that:

- Measures be implemented to ensure a sustained public monitoring of environmental progress involving government-industry negotiations on environmental performance standards. Visibility and accountability should be increased.
- Increased public funding be made available to environmental groups to enable them to provide a more continuous presence in hearings and in monitoring activity.

Conclusions and Recommendations

The natural resource sector's contribution to Canada's economic well-being, cultural life, and political traditions and institutions has been immense. Because natural resources have been so important to Canada's past, however, we tend to exaggerate their importance to our future. In fact, the resource sector has not grown at a rate commensurate with the economic expectations we have developed in the years since the Second World War; nor does its projected growth match our hopes for the decades to come.

It has become clear in recent years—if it was not clear before—that Canada's natural resource endowment is not unlimited. We are losing our agricultural land to suburbs and shopping centres. Our stands of readily accessible, high-quality timber are largely gone, and our richest and most accessible deposits of ore and fossil fuels are already in production. Our mismanagement of the fishery has meant that we have not been able to reap the potential benefits of the designation of the 200-mile offshore zone in 1977. These problems of supply are compounded by prospects of lower demand in world markets for forest products and most non-fuel minerals. Moreover, our forestry and minerals industries can expect increasingly stiff competition from countries with lower production costs, and this competition will be made all the more difficult by the rapid advances in products and process technology.

These problems do not mean that our basic resource industries will disappear. Relative to other nations, Canada remains well endowed with natural resources. The outlook for oil and gas, a few minerals, hydro-electricity, and Western grains is favourable. The dollar value of production in the resource sector will continue to grow. Nevertheless, the share of output in this sector will decline, relative to the share of output in other sectors of our economy, although the decline will not be as rapid as it was in the first two post-war decades. Total exports of resource products will continue to expand, and the terms of trade are unlikely to turn against us in any dramatic fashion. Increasingly, however, we shall have to supplement resource exports with exports of more highly processed products if we are to maintain our capacity to buy the goods and services of other nations. The pattern of relative decline will mean that we can generally expect no net gain in resource-sector employment in the future: a growing proportion of Canadians will find their jobs in factories or offices. Indeed, the decline in the resource sector's share of total employment is the clearest indication that the sector will not be the engine of economic growth that it was in the past.

The prospect of a decline in the relative importance of the resource sector in relation to our national economy is no reason to neglect that sector's problems or its claims. Resource industries are still essential to the economic life of many regions of Canada. Moreover, we have an obligation to pass on to future generations a variety of viable resource industries founded on a natural endowment that is as secure and as healthy as we can make it. Canada's success in resource production owes as much to human ingenuity as it does to the resource endowment itself, and many of the problems of the sector can be overcome, or at least diminished, by appropriate applications of that

ingenuity. We must apply new methods, new processes, new public policies, and new thinking to the problems of maintaining both the competitiveness of the resource industries and the integrity of the natural environment that is their base.

■ Chapter 12 set out this Commission's detailed recommendations for the individual resource sectors. The thrust of our recommendations for dealing with the challenges ahead in each resource sector is as follows:

- For agriculture, we recommend a range of measures, from expansion of foreign markets, to increased R&D, to reform of national supply-management marketing boards, planned to enhance the efficiency of a sector which has great potential over the long term.
- For forestry, we recognize a legacy of mismanagement and recommend significant changes in the way the forest sector operates, as well as a major infusion of public and private investment.
- For the fishery, what has been lacking is political will, and we recommend measures to build on the fundamental reforms of the Kirby and Pearse Reports to shift the balance in public policy toward building a viable economic base in Canada's coastal regions.
- For minerals, we recognize generally the more limited possibilities. We recommend a more realistic approach to adjustment and a movement towards a profit-based tax system.
- For energy, we recommend a new framework based on the principles of efficiency, fairness and predictability, and a complete overhaul of the fiscal regime for oil and gas.
- For the environment, we recognize the growing challenge and the need to integrate decisions related to environment and economic development. We recommend a series of measures to correct the incentives which are aimed at protecting the environment; and, in general, we propose strengthening the regulatory framework.

Commissioners believe that it is important, however difficult, to assess the problems and opportunities of the resource sector in a more comprehensive way, just as, for example, governments focus from time to time on the general issues of the manufacturing sector.

■ The following general principles briefly relate Commissioners' detailed recommendations to the management of the resource sector as a whole:

- We conclude that in Canada, with all its rich resource heritage, there is no conflict, in the long term, between the stewardship, preservation and enhancement of the natural resource base and

growth prospects for the traditional resource industries. Consequently, we perceive a vital need to integrate environmental decisions and decisions related to economic development, and our proposals for action in each of the particular resource sectors reflect this perception. Thus we recommend a study of the loss of prime farm land to non-agricultural uses and emphasize our concern about the problems of soil deterioration and soil salinity. We support the infusion of large sums of both public and private monies into reforestation and silviculture, and we recommend that the duration of leasing agreements between governments and forest companies be increased in order to provide an incentive for long-term management of forest tracts. Finally, in recognition of the fact that natural resources belong to the Canadian people and must be passed on to future generations, we believe that private developers should continue to pay governments a royalty based on production for oil and gas and minerals.

- In many other places in this Report, we call for less government intervention; in the area of environmental regulation, however, we are obliged to call for more. Over the long term, the task of environmental regulation promises to be immense. We shall have to deal with growth in the number and size of projects that may adversely affect the environment, with an increasing number of pollutants and hazards, with the irreversible, and sometimes unquantifiable, effects of a growing range of industrial substances and processes, and with the emerging international aspects of our environmental responsibility. Consequently, we recommend that governments increase their spending to provide the analytical resources needed to support the long-term regulatory task. We further recommend that federal environmental processes be put on a statutory basis, and that federal and provincial review processes be brought into greater harmony.
- Changes in the pattern of world trade have offered new opportunities and new challenges to the Canadian resource sector. Our ability to realize the opportunities—and to survive the challenges—will depend on our ability to design resource strategies suited to a global context. This consideration has led us to recommend that the grains sector and the fishery sector pursue marketing and production strategies that will give them access to the new and rapidly growing markets in the developing countries. Whether it is a question of expanding our markets or of beating the competition, we believe that it is within Canada's interest to work for free trade, both at the multilateral level and at the bilateral level, with the largest purchaser of Canadian resource products, the United States. The adjustment problems that would derive from freer trade and the bargaining tactics

that would be necessary to bring it about would vary with each resource.

- We believe that in many instances a stricter adherence to market principles and an increase in the incentives to the private sector would brighten the prospects of Canada's resource industries. Thus we consider that a commitment to market pricing for both oil and gas would provide the incentive essential to increased exploration and development. For oil and gas and minerals, we believe that the establishment of a taxation scheme based largely on profits rather than on output volumes would both promote the development of marginal supplies and allow the industry to make more rational resource-allocation decisions. Although we do not advocate transferring ownership of forest tracts to private industry, we do suggest that such modifications to the land-tenure system as increasing the duration of leasing agreements would promote more responsible forest management. Finally, we recommend a phasing-out of national agricultural-supply/management marketing boards and their replacement by an income-stabilization scheme designed to moderate large fluctuations in farmers' incomes.
- We believe that there is room for significant improvement in the efficiency of both the regulatory framework and the handling, licensing and transportation infrastructure that supports the resource sector. We underline the important effect of the Crow Rate on the transportation of all bulk commodities, especially Western grains. We support further movement in the direction of market-rate principles when the Western Grains Transportation Act comes up for review, but we leave it to the Committee of Inquiry on Crow Benefit Payment (Hall Committee) to advise on specific adjustments to the payment of the Crow Benefit. In the minerals area, we recognize that the regulatory structure is cumbersome and slow, and we recommend that governments undertake a systematic review of their regulatory processes with a view to streamlining them. We would also draw attention to the fact that fisheries management has all too often led to overcapacity, unnecessary tensions, uneven product quality and, thus, lost opportunity. For oil and gas, we recommend a simpler taxation regime and a simpler pricing formula, both of which would decrease medium- and long-term uncertainty.
- The resource sector has undergone far-reaching adjustments since the Second World War. Further adjustment will be both essential and unavoidable, although perhaps less dramatic than it has been in the past. We believe that if a given operation has failed to realize a profit over a sustained period, adjustment is inevitable and should be allowed to take its course; governments should not intervene to support uneconomic activity. Mines that

can no longer produce an ore competitively should be phased out, and we believe that in general, the same principle holds for the fishery. As we pointed out above, however, government action is necessary in some areas to guard against deterioration in the quality of our renewable resource base. In particular, we recommend a substantial increase in both public and private expenditures for the renewal of the Canadian forest.

There must be and can be a balance in the adjustment process between efficiency and fairness to people whose livelihoods or communities have long depended on traditional resource industries. In the case of the family farm, we recognize the special problems created by farmers' limited access to equity capital, by the volatility of farm prices, and by the principle that the land is to be passed to future generations. We therefore support the retention of special credit schemes for agriculture and, as mentioned above, we urge consideration of an income-stabilization scheme to replace national supply-management boards. By the same token, we support replacement of Unemployment Insurance for fishermen by a new production-bonus and income-stabilization program, a scheme that would promote more efficient behaviour without reducing total benefits. Fishermen would also be eligible for income supplementation under the Universal Income Security Program (UISP) proposed in our recommendations on social security. In the minerals sector, we recommend the provision of adjustment assistance for communities and individuals affected by mine closures.

- Research has a large pay-off, but often the benefits seem too distant to the producer of the resource to justify the expenditure. We recognize that there must be renewed Canadian effort in fundamental research, especially in the traditional resource industries, if Canada is to match progress in competitor countries. Research into soil deterioration and new crop varieties warrants long-term funding by government. So does research related to aquaculture and to maintenance and improvement of the forest base. We have also called for an increase in expenditure on training in forestry. Finally, we support a stepped-up research effort in the field of environmental management, where we believe that the institutional capacity to provide scientific advice on a systematic basis is essential.
- In view of the importance of resources to Canada's future economic prospects and of the need to take a more integrated view of the problems and opportunities in the resource area as a whole, we recommend the establishment of a Council of Resources Ministers to provide leadership for increased federal-provincial co-operation. We recognize that various ministerial groups (for example, on agriculture and mines) now exist, but

we believe that it is important for a co-ordinated strategy across the range of resources to be developed, based on the principles we have outlined above. We also recommend the development within the federal government of a greater capacity to analyse the contributions and problems of the resource sector as a whole. ☐

PART V



HUMAN RESOURCES AND SOCIAL SUPPORT

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Introduction

The Goals of Social and Human Resource Policies

Throughout much of this Report, Commissioners have focused on aggregates: on the economy or sectors of it, on corporations, on groups or on the institutions of government. In this part of our Report, we wish to focus on those programs that bear directly on individual Canadians: the programs of our human-resource and social-policies sector. In approaching these topics, we have searched through the records of our hearings and the submissions made to us, in an attempt to identify common goals and values with which Canadians approach these programs. There is no doubt that when Canadians assess social- and human-resource policies, they place a high value on efficiency in the use of scarce resources; in this respect, social policies are no different from others. We have found, however, that Canadians also bring a broader set of values to bear when they consider social programs.

First, we Canadians value equity. To our way of thinking, equity implies that the distribution of rewards in our society should reflect not just the ownership of resources and not merely the operations of chance, but also need, effort, merit and the taking of risk where that risk may lead to benefits for others. To our mind, equity is not identical with equality, and yet it often implies a somewhat greater degree of equality than is to be achieved by market mechanisms alone.

Secondly, we Canadians value security. While different people assign different values to security, we all require assurance that in the face of illness, loss of employment, family breakdown or the sometimes inexorable workings of a complex and dynamic economy, we will receive some protection. Security need not and should not be absolute, and there will naturally be wide debate about what degree is adequate, but it seems unquestionable that we all value it and expect our governments to provide it.

Thirdly, we Canadians seek opportunity. To most of us, opportunity is tied to labour-force participation; for most of us, a job represents our avenue of upward mobility and is often an essential element of our sense of self-identity. We therefore want our human-resource programs to be structured in such a way as to help us to find opportunities, to take advantage of them when they come, and to gain some economic headway when we do so. The other side of

opportunity is responsibility. We have a corresponding responsibility to provide for ourselves whenever we can and to be willing to adjust our behaviour so as to minimize our dependence on government.

Finally, we Canadians believe in sharing. Whether we are sharing risk or reward, adversity or wealth, we believe that it is our responsibility not merely to help ourselves, but also to help those who, through disability or, perhaps, the hand of fate, cannot provide fully for themselves. To this end, we believe that the benefits provided by social programs should be tailored so that those who, through no fault of their own, have profited less fully than others by the many opportunities provided in our economy should receive at least some of the rewards.

Equity, security, opportunity, responsibility and sharing: these concepts are not put forward in any particular order, for different Canadians will attach different weights to each. Commissioners believe, however, that these are the goals and values that Canadians would wish us to use when we examine those programs which bear most directly upon us all as individuals.

The development of major social-security and social-service programs, the rapid expansion of educational and training systems, the augmentation of a framework for labour relations, the assimilation of millions of immigrants into Canadian society, and the improvement of some aspects of our labour markets all stand out as important achievements of the post-Second World War era. Yet despite broad agreement concerning the values and goals outlined above, the basic means by which we should seek to accomplish them have been increasingly debated. The arguments about the universality of our social programs constitute one such debate. Another relates to the adequacy of our educational and training systems and the continual discussions of how best to structure our unemployment insurance plans. Still another revolves around the nature of our immigration policies. Controversy surrounds the entire area of labour relations, and as a nation, we are far from determining how best to provide equal opportunities in the work-place. A careful examination of these areas of interest is essential to determining Canada's future development prospects.

Achieving Our Social Goals

In striving to achieve the best possible combination of equity, sharing, opportunity, responsibility and security, we Canadians must also remain mindful of our need to achieve an appropriate degree of economic efficiency, for this contribution to the well-being of us all is vital in an increasingly competitive world. To improve economic efficiency is, in effect, to increase the output available to meet the needs and wishes of Canadians, including the poorest and most vulnerable groups within our population, as well as the richest and most secure. It is obvious, therefore, that we must pay due regard to the economic efficiency of all our program designs.

This concern for economic efficiency underlies Canadians' general preference to pursue our goals primarily through formal instruments of social insurance and income redistribution, and through governments' provision of essential social services which the market would not adequately provide, rather than by imposing constraints on the functioning of market mechanisms. Thus, for example, the need to develop a more efficient, flexible and

adaptive labour market undergirds Commissioners' analysis of intervention in wage setting, our approach to meeting labour-force requirements, our consideration of existing constraints on part-time work, and our proposals for the reform of aspects of our Unemployment Insurance (UI) system and our major income-transfer programs. We are well aware, of course, that there are many instances of market failure, of situations where the labour market does not operate to ensure efficient allocation of human resources. Where such market failures do exist, we have not hesitated to recommend interventions to correct them.

Just as we Canadians have a range of goals to aim for in considering our human-resource and social-support programs, so also we have a variety of instruments through which to achieve these goals. Broadly speaking, these mechanisms may be divided into two categories: the *direct delivery of services* by government or public institutions such as schools or hospitals and the provision of *transfer payments or the use of tax mechanisms* which redistribute money from one member of society to another. Transfer programs may be further subdivided into those intended to serve primarily as a social-insurance instrument, helping to insulate Canadians from unexpected declines in income, and those which redistribute income on the basis of some definition of need. Unemployment Insurance is the primary example of the former type of program, and social assistance is an example of the latter.

As we assess our current programs, it is important to keep in mind both our multiplicity of goals and the possibility of using various means to achieve them. For example, we may criticize our income-transfer programs for being insufficiently redistributive: that is, for inadequately serving the goals of sharing and security. Equally, however, we must take into account that those programs must fit prevailing concepts of equity, must encourage people to grasp opportunities, and must be delivered in such a way as to maximize the overall efficiency of our economy. We must seek, therefore, to find the best possible balance among those goals.

It is equally important to distinguish among instruments when designing individual programs. For example, attempts to blend the two instruments of insurance and redistribution in a single program may reduce the efficiency of each. Thus Unemployment Insurance is not well suited to serve as an instrument of equitable income redistribution because the program pays benefits on an individual, rather than a family, basis; excludes people who have not paid premiums; fails to test for all sources of income; and applies a very short accounting period to benefits. Yet, intentionally or inadvertently, Canadians use Unemployment Insurance as a redistributive instrument; we do so, for example, by applying a surtax to workers whose annual income is greater than \$30 000 and by maintaining a regional benefits structure which is not related directly to individual risk. General acceptance of the desirability of separating insurance and redistribution would therefore provide the basis of important reforms in the UI program, and we Commissioners have based some of our reform proposals on that proposition. Yet, because we are mindful of the multiple goals which the income-security system as a whole should attain, we shall recommend that such an option not be pursued in isolation but, rather, that it be accompanied by a stronger reliance on the tax-transfer system for redistribution of income.

When the focus of the welfare state does shift to these tax-transfer mechanisms, the change also makes major improvements possible. During the decades that immediately followed the Second World War, it was widely assumed that rapid economic growth and the development of social programs had eliminated widespread poverty from modern societies. From the 1960s onward, however, a growing body of evidence and experience has steadily eroded that view. The extent of poverty in Canada continues to stand as a tragic problem, but one which Commissioners believe is susceptible to substantial amelioration through improvements in our income-security programs and tax systems. Moreover, we view the constellation of our tax and transfer programs as seriously flawed with respect to the incentives and opportunities which it provides for low-income Canadians to improve their economic situation. The suggestions we make below are intended, in part, to deal with these problems.

Commissioners believe, too, that the time is opportune to consider major changes in our higher-education and training programs. In some respects, these have served Canadians well, but we are concerned that the programs of financial support now in place will not promote the excellence our nation has every right to demand from publicly financed institutions and the flexibility which those institutions will require to deal with the challenges and opportunities that lie ahead. We therefore canvass a number of reform proposals relating to this part of government activity.

We have already emphasized our conviction that for most Canadians, the primary source of income and opportunity resides and must continue to reside in the labour markets. The efficiency and equity with which those markets operate is therefore vital, not only to our national economic prospects, but also to the prospects of the vast majority of individual Canadians. In many respects, Canadian labour markets deserve a positive evaluation, but there are also many respects in which they can be improved. We devote considerable space in this chapter to an examination of their structure and functioning and to suggestions for their improvement.

We have looked very briefly, too, at a few of our social services, at Canadian immigration policy, and at the role of the voluntary sector in providing services. We have focused less on these issues than on others, not because we consider them less important, but rather because in attempting to narrow slightly what is already an exceedingly broad mandate, we have chosen to concentrate on the economic and income-distribution aspects of the welfare state. For rather similar reasons, we have not attempted to deal with health policy and programs in Canada, although in this case our decision is also based on Canadians' high levels of satisfaction with the health-care system.

Implementing Major Reforms

The reforms proposed in this section are extensive. They will affect the lives and livelihood of virtually every Canadian. They are also both highly complex and closely interrelated. These attributes are particularly important with respect to those proposals dealing with income security, unemployment insurance and transitional adjustment. In those areas particularly, we

Commissioners must emphasize our view that the benefits of reform will be greatly amplified if governments treat our proposals as a single package. We shall be recommending a significant set of changes to our unemployment-insurance system and our income-security system. The UI changes will make our economy more dynamic by encouraging the expansion of more efficient industries and avoiding the payment of inappropriate cross-subsidies to less efficient firms and sectors. These are important changes, well worth considering in themselves, but used alone they would cause substantial hardship to some Canadians. If, however, they are implemented in conjunction with a Universal Income Support Program (UISP), the combination will offer substantial compensation for any negative effects, while most of the desirable effects will be retained. If the net savings generated by our basic changes in unemployment insurance are also redirected into a Transitional Adjustment Assistance Package (TAAP)—a very important step, in this Commission's view—individuals will be even better able to cope with the economic adjustments which we foresee.

The most desirable package, Commissioners believe, would include the following components.

- Personal income tax and transfer programs would:
 - Provide a Universal Income Security Program which would pay a basic income supplement to all Canadians. The supplement would be progressively reduced as income rose.
 - Fund that program by means of eliminating the Guaranteed Income Supplement for the elderly (but not Old Age Security); Family Allowances; Child Tax Credits; Married Exemptions; Child Exemptions; Federal Social Housing Programs; and Federal Contributions to the Canada Assistance Plan.

If these programs were eliminated, the Universal Income Security Program would be essentially self-funding.

- With respect to unemployment insurance, there would be changes such as the following:
 - Introduction of experience rating introducing a relationship between premiums and the risk of unemployment
 - Reduction of benefit levels from 60 per cent to 50 per cent of insurable earnings
 - Extension of the employment period required to qualify for UI benefits from the present 10–14 weeks
 - Provision of one week of benefits for every two or, possibly, three weeks' labour-force attachment
 - Termination of regional extended benefits.

These changes will substantially reduce program costs and encourage more efficient allocation of labour resources. The resulting savings could be used to finance the third major component of the package.

- The Transitional Adjustment Assistance Program would provide adjustment assistance for Canadians who have exhausted their UI benefits, or to those for whom no immediate job opportunities can be identified, provided that they are willing to move in order to accept employment or to undertake retraining to improve their labour-market prospects. The program would provide greatly expanded support for:

- Portable wage-subsidy programs
- Mobility grants
- Training programs
- Early retirement
- Compensation for losses in assets (housing) as a result of decline of communities
- Employee purchase of plants which might otherwise close or of other forms of local economic development projects.
- With a Universal Income Security Program in place, it becomes less important, in dealing with poverty, to maintain high levels of minimum wages, since the UISP will provide a wage subsidy for very low-wage workers. This arrangement will allow governments to de-emphasize minimum wages as a policy device, with the consequent possibility of encouraging higher levels of employment for low-skill workers and providing more employer-employee/financed, on-the-job training.

Commissioners recognize the extensive nature of the changes proposed, but consider that Canada must make a very important "package" of integrated changes to our nation's human resource and social support programs. We make this judgement in the belief that this undertaking is essential to Canadian adjustment to the requirements of our advance into the twenty-first century. In this vein, the authors of a recent study of our government and our economy have pointed out that:

*One of the biggest defects in the present 'industrial policy' of Canadian government is precisely the absence of an adequate system to help, support, induce and (to some extent) force workers to adjust to . . . changing economic circumstances. The failure of our existing enormous transfer system to accomplish this task satisfactorily is indeed a serious condemnation of that system . . .*¹

Not all of the proposals presented in this section need to be considered as parts of a package approach. Commissioners' recommendations on labour-management relations or occupational health and safety, for example, are only very indirectly related to income-security or UI-program changes, and the same is true of most of our suggestions concerning post-secondary education. We shall, therefore, make it clear as we move through the text which pieces had better be considered the basis of a package approach, and which can be considered alone.

Finally, we wish to emphasize that our proposals would do little to increase the net cost of Canada's social programs. The major elements of our suggested reforms are either self-financing (as with the UISP) or financed by expenditure reductions mentioned elsewhere in the package (as with UI and TAAP programs). We have not proposed reductions in the programs in this sector because it is our view that Canada's expenditures in this area are not excessive. For this reason, our financial objective has been to suggest appropriate reallocations of funding within existing expenditure levels.

Note

1. Richard Bird and Christopher Green, *Government Intervention in the Canadian Economy* (Toronto: University of Toronto, Institute for Policy Analysis, 1985).



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The Evolution of Policy: *Major Trends and Issues*

Before we plunge into a detailed consideration of specific proposals for reform, it is important to examine the broad patterns of development in social policy and labour relations. Accordingly, this section focuses on three dimensions of Canadians' collective experience. We shall examine the historical development of these sectors, assess the current network of policies, and only then attempt to peer into the future and to anticipate the major forces that are likely to shape those policies in the years to come.

The Retrospective View

The transition from the predominantly agrarian community of the nineteenth century to the urban society of contemporary Canada exposed Canadians to a new and unfamiliar social environment. The expansion of industrial production created a large industrial work-force and generated a wide set of enduring tensions between labour and management. The policy issues posed by these sweeping changes in our economy and our society dominated our country's political agenda throughout much of the twentieth century, especially during the pivotal decades of the 1940s, 1950s and 1960s.

The Welfare State

The economic developments of this century have brought a prosperity undreamed of by earlier generations of Canadians, but these same developments also set in motion forces of social change which simply overwhelmed the rudimentary provisions for public relief which prevailed during the nineteenth century. The new economic and industrial order left people particularly vulnerable to the loss of earnings of the primary breadwinner during periods of unemployment, illness, disability and old age. At the same time, traditional social institutions, such as the family, the church and the

local community, were less and less able to cope with Canadians' social needs. The traditions of private charity, which were an important part of the small, stable and closely knit communities in rural areas and small towns, eroded steadily in the face of a mobile and increasingly urban population. The intense economic and social dislocation of the 1930s graphically demonstrated the inadequacies of traditional welfare mechanisms and the need for a more comprehensive system of social security.

The pressures for social reform thus flowed, in the first instance, from economic development. Canadian experience in this regard paralleled that elsewhere: industrial nations, often with widely differing traditions and systems of government, created increasingly elaborate forms of collective provision for their social needs. There was, however, no simple determinism at work, for the social programs of these various nations also showed tremendous diversity. Each Western nation developed its own version of the welfare state in light of its cultural traditions and the balance of political forces within it.

In the context of Canadian culture, the welfare state reflected a broad evolution in the dominant beliefs about the proper role of government and about the rights and duties of citizens. The twentieth century witnessed a growing acceptance of the legitimacy of social security and, more generally, a deepening belief in the importance of a wider set of social rights which would complement the legal and political rights already established. In the period that followed the Second World War, these ideas were reinforced by the spread of economic theories that were much more compatible with significant income redistribution than earlier orthodoxies had been. Yet in Canada, at least, the advance of collectivist views has always been constrained and challenged by the enduring strength of individualist political values, with their emphasis on personal achievement and responsibility. The tension between collectivist and individualist beliefs has continued to fuel welfare politics and to shape our social security system, both in its overall scope and in the design of specific programs.

This battle of ideas was fought out in the political arena. During the first half of the twentieth century, support for the welfare state grew steadily. Intellectuals, social reformers and the developing profession of social work often led the way in documenting the severity of social problems and outlining blueprints for their solution. The emergence of left-wing political protest in the form of the Co-operative Commonwealth Federation (CCF) generated a third force in Canadian politics that was strongly dedicated to social change. Organized labour, which grew rapidly after the mid-1930s, also became a consistent champion of the expansion of the welfare state. In addition to these external pressures, reformist elements developed within the major political parties and in parts of the senior civil service. Moreover, established political leaders were clearly sensitive to the broad current of public support for social spending. When the question of pensions became prominent, for instance, "many M.P.'s in Canada were convinced that the pension issue was a significant, even decisive, factor in electoral choice, especially at certain critical junctures in the development of pension policy."¹

The actual policy responses to these economic and political changes spanned a 50-year period. Indeed, the welfare state stands as a classic testament to the Canadian preference for incremental, rather than wholesale, reform. In many significant areas, the basic principle of state intervention was actually established during the inter-war period. Workers' Compensation was initiated in Ontario in 1914 and progressively adopted by other provinces; Mothers' Allowances for widowed mothers with dependent children spread quickly after their introduction in Manitoba in 1917; income redistribution in favour of the aged became a fact between 1927 and 1936 as the provinces opted, one by one, into the federal Old Age Pension Act; pensions for blind persons over 40 years of age followed in 1937; and the principle of a federal contribution to support for the unemployed had been acknowledged – albeit grudgingly – in the early 1920s and, again, in the 1930s. All of these benefits were means-tested and were often inadequate. Certainly it was impossible to speak of a “right” to support in that period. Nevertheless, by the time war broke out in 1939, collectivism was already established on firm ground in Canadian welfare politics.

This base grew rapidly in the decades that followed. Firmer political support, economic growth and, after the war, declining defence expenditures provided a favourable context for change. The range of social needs covered was expanded, while demogrants and social insurance reduced reliance on means-tested programs, establishing a clearer right to support. In the income-security field, Unemployment Insurance, introduced in 1941, was followed by Family Allowances in 1944, Old Age Security in 1951, several conditional grant programs in the social assistance area during the 1950s, Youth Allowances in 1964, the Canada and Quebec Pension Plans in 1965, the Canada Assistance Plan and the Guaranteed Income Supplement in 1966, the Spouses Allowance in 1975, and the Child Tax Credit in 1978. In the health field, the National Health Grants, initiated in 1948, supported a major expansion of hospital construction by provincial governments throughout the period, and health insurance was introduced on a nation-wide basis following the introduction of the Hospital Insurance and Diagnostic Services Act of 1957 and the Medical Care Act of 1966.

By the end of the 1960s, then, the main structure of the Canadian model of the welfare state was in place. The 1970s, by contrast, turned out to be a decade of transition. The early years of the period saw the continuation of the reformist momentum, with a significant enrichment of the Unemployment Insurance and Family Allowances programs, and a major debate over the introduction of a guaranteed annual income (GAI) during the sweeping Social Security Review initiated in 1973. The second half of the decade, however, seemed to mark the end of a generation of expansion. Some social programs were cut back, and a whole range of fundamental questions emerged about the future of the welfare state.

Income security, health and education represent central supports of the welfare state, and the expansion of each has been a central feature of Canadian life during the last 40 years. The historic growth of the welfare state throughout the post-war period can be traced in the tables that follow.

The first three tables highlight the expansion and importance of Canada's income-security programs. Table 14-1 demonstrates the relative size of the major components of the system and the way in which each of these components has expanded since 1956. Tables 14-2 and 14-3 illustrate the importance of these programs to Canadians. In many policy areas, government action affects the general public indirectly, by influencing the nature of economic activity or the operations of major institutions in the private sector. Income security, however, represents a direct contact between government and citizen, and for millions of Canadians that contact is central to the maintenance of their standard of living and their general well-being. Table 14-2 documents the large number of recipients of the major national programs. Table 14-3 provides another view of the importance of the transfer system, especially to Canadians in lower-income groups.

These transfer programs represent the most visible component of our redistributive system. Governments also provide assistance to individuals and families through the increasingly elaborate set of exemptions and credits which permeate the income-tax system. The cost of these "tax expenditures" is now sizeable indeed. In 1984-85, for example, the combination of the personal, marriage and age exemptions, the child exemption and the child tax credit, the employment deduction and the tax assistance with pensions and retirement savings cost the federal government approximately \$25 billion in revenue forgone. Critics have pointed out that our tax and transfer programs are not well integrated, and that tax exemptions, in particular, provide the greatest benefits to higher-income earners. This Commission agrees that transfer programs and tax expenditures should no longer be treated as conceptually distinct elements of public policy, but as integrated components.

The next group of tables illustrates the growing importance of health-care programs in Canadian society. Table 14-4 tracks the dramatic post-war expansion of the health-care sector, as measured by the number of hospital beds, physicians and dentists available to Canadians. The two figures that follow examine the expenditure implications of this growth. Figure 14-1 shows the substantial increase in the role of government in the health-care sector as a whole: the public share of total health expenditures rose steadily from 43 per cent at the beginning of the 1960s to about 75 per cent by the mid-1970s; it has since remained stable at that level. Table 14-5 indicates the expansion of health spending as a proportion of gross national product (GNP). Between 1960 and 1970, the share of health spending in our GNP rose sharply, from 5.6 per cent to 7.3 per cent, coincident with the implementation of the hospital-insurance and medicare programs. Equally remarkable, however, was the relative stability of health spending during the 1970s. Despite all the controversy about rising health costs of that decade, it is now clear that their increase was no greater than the growth in the productive capacity of the economy during ten consecutive years. Since 1980, health costs have begun to rise again, but it is too early to know to what extent this growth represents a new trend, and to what extent it is a result of the recession.

The cycles of educational expansion are represented in Table 14-6, which tracks enrolment patterns at each level of schooling over four decades. In

TABLE 14-1 Expenditure on Major Income Security Programs, 1956-1982

Programs	(\$ millions)					
	1956	1960	1964	1968	1972	1982
<i>Federal</i>						
OAS-GIS ^a	376	587	871	1 478	2 430	9 304
Unemployment Insurance	210	482	344	438	1 869	8 454
Family Allowances	394	502	559	615	611	2 204
Canada Pension Plan	—	—	—	11	190	2 873
<i>Provincial</i>						
Social Assistance	20	24	59	381	751	3 164
Old Age and Blind Pensions	60	80	116	40	23	681
Mothers and Disabled Allowances	37	73	93	69	41	171
Workmen's Compensation	70	92	124	177	280	1 726
Quebec Pension Plan	—	—	—	4	58	1 006
<i>Local</i>						
Direct Relief	24	57	80	131	244	522
<i>Total</i>	1 191	1 897	2 246	3 344	6 497	30 105

Source: Statistics Canada, *National Income and Expenditure Accounts*, Cat. No. 13-201 (Ottawa, various years).

a. Old Age Security-Guaranteed Income Supplement.

TABLE 14-2 Number of Recipients of Major Income Security Programs, 1971-1981

Year	Old Age Security	Guaranteed Income Supplement	Spouses Allowance	(thousands)			Social Assistance ^b
				CPP/ QPP	Family Allowances ^a	Unemployment Insurance	
1971	1 720	860	—	331	3 024	N.A. ^c	1 622
1972	1 763	974	—	449	3 063	1 904	1 533
1973	1 808	1 045	—	564	3 110	2 007	1 370
1974	1 858	1 076	—	690	3 344	2 068	1 347
1975	1 916	1 082	—	822	3 446	2 454	1 436
1976	2 011	1 087	54	1 008	3 510	2 401	1 500
1977	2 086	1 115	72	1 164	3 561	2 479	1 508
1978	2 149	1 136	74	1 304	3 595	2 524	1 502
1979	2 220	1 162	75	1 426	3 611	2 333	1 548
1980	2 317	1 191	81	1 558	3 631	2 274	1 334
1981	2 388	1 245	85	1 680	3 645	2 432	N.A.

Sources: Statistics Canada, *Social Security: National Programs, 1982* (Ottawa, various volumes); *Benefit Periods Established and Terminated Under the Unemployment Insurance Act* (Ottawa, various years), pp. 73-201.

a. Number of families receiving Family Allowances (excluding youth allowances).

b. Number of persons assisted through the Canada Assistance Plan.

c. N.A. = Not available.

TABLE 14-3 Transfer Payments as a Proportion of Income within Income Quintiles, All Units

Quintile	1971	1976	1981	1982
Lowest	53.3	57.7	57.3	61.4
Second	18.2	22.7	22.7	28.0
Third	5.7	8.4	8.8	11.8
Fourth	3.4	5.1	5.0	6.5
Highest	2.0	2.7	2.6	3.3
Total	6.6	8.6	9.0	10.9

Source: Statistics Canada, *Income Distributions by Size in Canada*, Cat. No. 13-207 (Ottawa: Minister of Supply and Services Canada, various years).

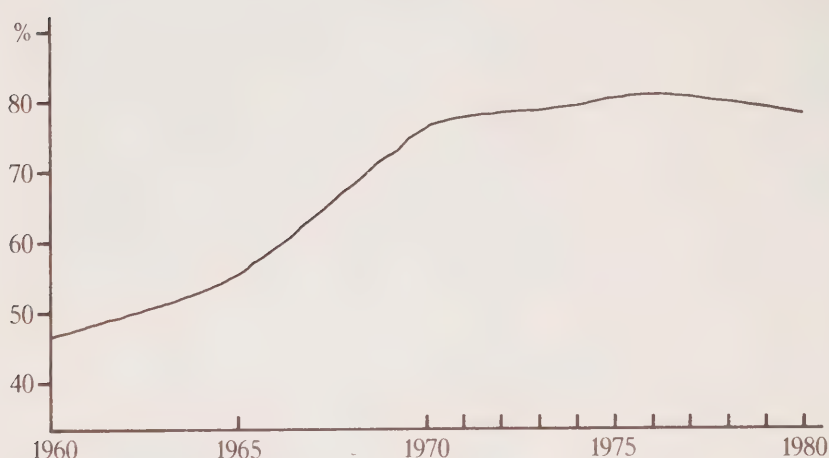
TABLE 14-4 Expansion of the Health-Care System: Hospital Beds, Physicians and Nurses, 1941–1975

Year	Total Hospital Beds	Population per Each	
		Physician	Nurse
1941	103 541	968	441
1951	145 950	976	325
1961	192 939	857	258
1971	210 974	659	146
1975	208 345	585	129

Source: Statistics Canada, *Historical Statistics of Canada*, 2d ed. (Ottawa: Statistics Canada, 1983), pp. B82–92, B177–188.

these figures, we can see the flow of the post-war “baby boom” through the elementary and secondary schools, during the 1950s, 1960s and 1970s, and the decline in student numbers in the 1980s. The figures also follow the expansion of the post-secondary educational institutions, illustrating the creation of a major system of community colleges during the 1960s and the significant expansion of the university sector. The expenditure implications of these changes can be seen in Table 14-7.

FIGURE 14-1 Share of the Public Sector (Federal, Provincial, and Local) in Total Health Expenditures, Canada, 1960-1981



Source: Canada, Health and Welfare Canada, Health Economics and Statistics Division, preliminary unpublished figures.

TABLE 14-5 Health Expenditures, by Category, as a Percentage of the Gross National Product, Canada, 1960-1982

	1960	1965	1970	1975	1980	1981 ^a	1982 ^a
Total health expenditures	5.67	6.07	7.30	7.49	7.48	7.60	8.44
Personal health care	4.62	5.11	6.36	6.61	6.55	6.65	7.41
Other health costs	1.00	0.96	0.94	0.88	0.85	0.85	1.03

Source: Canada, Health and Welfare Canada, Health Economics and Statistics Division, unpublished figures.

a. Figures are provisional.

TABLE 14-6 Education: Full-Time Enrolment, by Level, Selected Years

Enrolment	(thousands)				
	1941-42	1951-52	1961-62	1971-72	1981-82
Elementary and secondary school	2 143	2 625	4 413	5 806	5 032
Community college	19	28	53	174	273
University	36	63	129	323	402

Source: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Table 15.3.

TABLE 14-7 Educational Expenditures as a Proportion of GNP, 1950-1974

Year	Percentage
1950	2.4
1960	4.4
1970	9.0
1974	7.5

Source: Statistics Canada, *Historical Statistics of Canada*, 2d ed. (Ottawa: Statistics Canada, 1983), p. W61-80.

Note

1. Kenneth Bryden, *Old Age Pensions and Policy-Making in Canada* (Montreal: McGill-Queen's University Press, 1974), p. 184.

The Contemporary Pattern

The expansion of the Canadian welfare state constitutes one of the major accomplishments of the post-war generation. Much of the political energy of the last 40 years has been devoted to this task, and Canada has clearly become a fairer society as a result. Nevertheless, now is a time for taking stock, for re-examining the structure which has been put in place, for assessing its adequacy in light of contemporary social needs, and for anticipating its prospects for the future.

In assessing Canada's existing policies, Commissioners have adopted two broad perspectives. The first compares Canadian social policies with those of other Western industrial nations, and the second examines more directly the welfare of Canadians.

Canada in Comparative Perspective

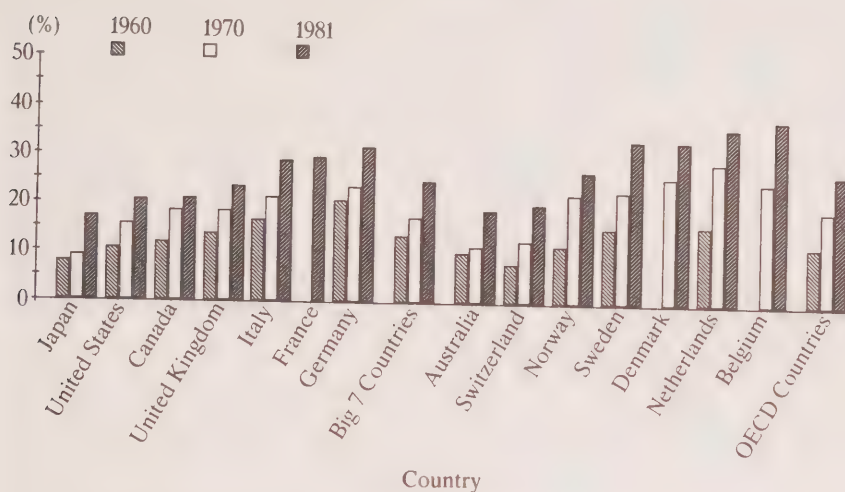
A comparative perspective is of invaluable service in any evaluation of the Canadian welfare state. To concentrate solely on social expenditures in this country might lead to suggestions that Canada's rate of growth has been exceptional and necessitates major economic or social adjustments not faced elsewhere. Even a brief examination of the experience of other countries puts such concerns in a fuller context. In fact, the expansion of the Canadian welfare state—so dramatic when viewed in isolation—seems much more modest by the standards of Western industrial nations generally.

As Figure 14-2 illustrates, a comparison of Canadian expenditures on social programs with those in other countries belonging to the Organisation for Economic Co-operation and Development (OECD) shows Canada ranking in the lower third, with expenditures of 21.7 per cent of gross domestic product (GDP) in 1981, compared to the OECD average of 25.5 per cent of GDP. Expenditures in the United States, standing at 21 per cent, were almost identical to those in Canada. In general, Canada stood ninth out of twelve major OECD countries in 1981. In the same year, the Netherlands and Denmark, with expenditures of 36 per cent of GDP, led all other OECD countries; they were followed by Sweden and Germany. Italy, France, Norway and Britain devoted slightly more of their national resources to social programs than did Canada. Australia and Japan lagged behind Canada, with expenditures of 3 and 4 per cent, in company with such smaller OECD countries as Finland, New Zealand and Greece.

Canada's position relative to this standard has remained fairly constant over time, changing from eighth place in 1960 to ninth in 1975. Between 1960 and 1981, social expenditures in all OECD countries grew from 13.4 per cent of gross domestic product to 25.5 per cent. Canada participated in this surge, with a growth rate almost identical to the OECD average, although our growth did occur later than that of many countries. The Scandinavian countries, for example, as well as France and Japan, experienced above-average growth in the early 1960s, while Canada and the United States made their increases in the mid-1960s. All countries, however, experienced a slowing of the rate of increase in real expenditure between 1975 and 1980.

FIGURE 14-2 Social Expenditure as Percentage of GDP

(in current dollars)



Source: Organisation for Economic Co-operation and Development, *Social Expenditure 1960-1990: Problems of Growth and Control* (Paris: OECD, 1985), Appendix C.

Note: Social expenditures include direct federal, provincial or state, and local costs of health, education, unemployment insurance and income-maintenance programs, but exclude housing and community programs. Tax expenditures are not included. Unless otherwise stated, percentage shares of GDP are based on current dollars. Data for all countries in all years did not appear in source.

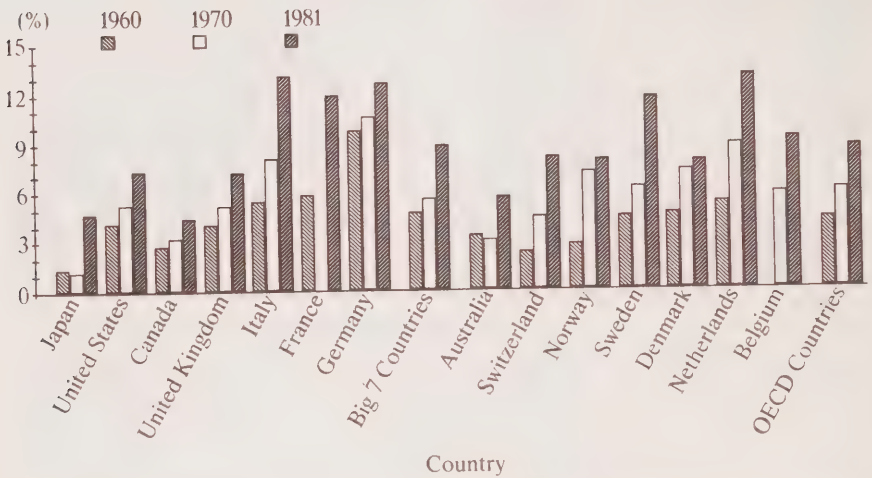
a. Data are for 1981, except: Belgium, 1980; Denmark, 1979; and Switzerland, 1979.

Industrial countries differ, not only in the overall proportion of their national resources that they devote to social spending, but also in selecting their priorities within the social sector. Indeed, relative expenditures in specific policy areas vary widely. By comparison with other OECD nations, Canada spends proportionately less on pensions, about average amounts on education and health, and more on unemployment benefits. In expenditure for pensions, as Figure 14-3 shows, Canada has consistently trailed other countries, standing last of twelve countries in 1981, with direct expenditures of 4.6 per cent of GDP, compared to a twelve-country average of 8.8 per cent.

Part of the explanation for Canada's relatively low expenditures on pensions can be found in the age profile of our population, as the elderly represent a smaller proportion of the total population here than elsewhere. Canada's ratio of pensioners to workers, for example, stood at 21.2 per cent in 1980, as compared to 28.4 per cent in other OECD countries; in fact, our rate was lower than that of every other country except Japan. Demography, however, does not tell the full story. Our expenditures are lower because Canadian benefits, too, are lower. The average OECD expenditure per pensioner is 14.8 per cent of average GDP per worker; Canada, on the other hand, spends only 11.6 per cent; again, this proportion is smaller than that of

FIGURE 14-3 Social Expenditure on Pensions as a Percentage of GDP

(in current dollars)



Source: Organisation for Economic Co-operation and Development, *Social Expenditure 1960-1990: Problems of Growth and Control* (Paris: OECD, 1985), Appendix C. Data for all countries for all years did not appear in source.

a. Data are for 1981, except: Belgium, 1980; Denmark, 1979; and Switzerland, 1979.

every other OECD country but Japan. Canada did spend an additional \$6.6 billion in 1983-84 on tax expenditures, primarily in the form of tax exemptions for contributions to Registered Retirement Savings Plans (RRSPs), the Canada and Quebec Pension Plans (CPP/QPP) and private pension plans. Nevertheless, even if tax expenditures for Canada are included and similar expenditures in other countries disregarded, our nation moves up only to tenth place, still well behind European countries and the United States.

Canadian expenditures on education and health, by comparison, stand much closer to the average level of funding in other OECD countries. In 1981, Canada devoted 6.2 per cent of its GDP to education, compared to the OECD average of 6.1 per cent. In fact, this position reflected a considerable change for Canada. In 1960, our expenditures ranked us eighth out of ten OECD countries, but a rapid increase in the second half of that decade brought Canada's standing to fifth out of 12 in 1975. The Scandinavian countries have consistently ranked as top spenders in these areas, while Germany and Japan have lagged behind. Figure 14-4 also demonstrates another important trend: educational spending dropped in all major OECD countries except Italy, Sweden and Japan, between 1975 and 1981, largely because of declining enrolments in educational institutions.

Health care is another sector in which Canadian spending hovers close to OECD average. Canada ranked seventh of 12 OECD members in 1982, devoting 5.9 per cent of GDP to public health expenditures, compared to the

FIGURE 14-4 Social Expenditure on Education as a Percentage of GDP

(in current dollars)



Source: Organisation for Economic Co-operation and Development, *Social Expenditure 1960-1990: Problems of Growth and Control* (Paris: OECD, 1985), Appendix C. Data for all countries for all years did not appear in source.

a. Data are for 1981, except: Belgium, 1980; Denmark, 1979; and Switzerland, 1979.

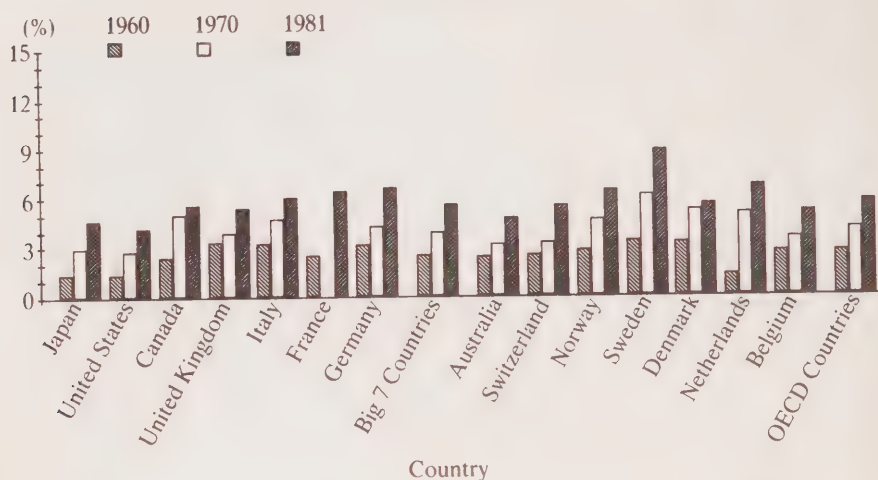
average expenditure of 6.1 per cent. The United States has consistently stood last in *public* health expenditures – spending 4.5 per cent of GDP, for instance, in 1982 – while Sweden ranks first. However, in terms of total share of GNP devoted to public and private health-care expenditures, the United States ranked at or near the top throughout most of the post-war period. Most major OECD countries, including Canada, experienced their greatest growth in health costs during the 1960s, but Canada's growth rate did drop below the average from 1970 to 1981, reflecting the stabilization in health-care expenditures noted earlier. (See Figure 14-5.)

When attention turns to unemployment benefits, Canada's international position changes dramatically, since our spending in this sector, as Figure 14-6 illustrates, has been consistently high compared to that of other OECD countries. In 1981, with expenditures of 2.3 per cent of GDP, Canada stood second only to Denmark, and well above a 12-country average of 1.25 per cent. In comparison, the United States spent only 0.5 per cent on unemployment payments.

Canada's relatively large expenditures on unemployment compensation are not the result of higher benefit levels or of longer average periods of benefit. Indeed, from 1975 to 1980, Canada's benefit levels were almost identical to those in the United States, while benefits in Japan and Germany were 30 to 50 per cent higher. Moreover, the average benefit period in Canada, between 1975 and 1980, was only slightly shorter than that in the United States, while France, Italy and Japan had, on average, significantly longer benefit periods.

FIGURE 14-5 Social Expenditure on Health as a Percentage of GDP

(in current dollars)

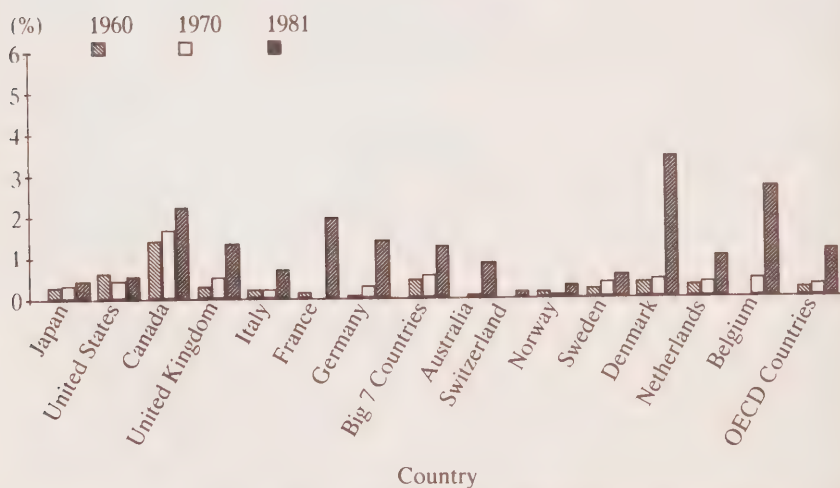


Source: Organisation for Economic Co-operation and Development, *Social Expenditure 1960–1990: Problems of Growth and Control* (Paris: OECD, 1985), Appendix C. Data for all countries for all years did not appear in source.

a. Data are for 1981, except: Belgium, 1980; Denmark, 1979; and Switzerland, 1979.

FIGURE 14-6 Social Expenditures on Unemployment Compensation as a Percentage of GDP

(in current dollars)



Source: Organisation for Economic Co-operation and Development, *Social Expenditure 1960–1990: Problems of Growth and Control* (Paris: OECD, 1985), Appendix C. Data for all countries in all years did not appear in source.

a. Data are for 1981, except: Belgium, 1980; Denmark, 1979; and Switzerland, 1979.

The primary explanation of Canadian expenditure levels seems to lie in Canada's higher unemployment rates and its higher percentage of workers covered by unemployment compensation. Between 1975 and 1980, Canada had an average unemployment rate of 7.5 per cent, compared to an OECD average of 5.4 per cent, and 6.7 per cent of our working population received unemployment benefits, compared to only 2.2 per cent in the other major OECD countries.

The Welfare of Canadians

When we focus directly on Canadian experience, two major elements stand out. Plainly, the overall welfare or well-being of Canadians as a whole has risen dramatically over the post-war period. The economic difficulties of recent years should not blind us to the distance we have come as a community since the Second World War. It is equally clear, however, that the distribution of welfare among Canadians has changed much less.

There is no simple standard for measuring the overall level of welfare in a society. People disagree fundamentally, both on the range of social indicators relevant to our well-being and on the relative importance to be attributed to each one. The consideration presented here is therefore confined to three dimensions of welfare which virtually everyone would accept as important: income, health and education. By and large, Canadians have made substantial progress in each of these dimensions during the post-war period. Certainly, our incomes have risen sharply. Table 14-8 presents the basic data from 1951 to 1981: nominal income increased more than nine-fold, while real income rose by almost 175 per cent.

Canada's standard of living remains one of the highest in the world. Table 14-9 measures the gross domestic product on a per capita basis for nine OECD countries. The simple nominal measure shows Canada ranking fifth, in a tie with Austria. Such a nominal measure, however, provides a distorted view of living standards because it does not take into account differences in

TABLE 14-8 Income of Canadians, 1951-1981

	(per capita income)			
	1951	1961	1971 ^b	1981
Current	\$989 ^a	\$1 459 ^a	\$2 891	\$9 636
Constant (1951 \$)	989 ^a	1 281 ^a	1 908	2 685

Source: F. Vaillancourt, "Income Distribution and Economic Security in Canada: An Overview", in *Income Distribution and Economic Security in Canada*, vol. 1, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985), Table 2.

- a. Non-agricultural population only.
- b. The Northwest Territories are excluded in 1961, but included in 1971 and 1981. Income of individuals residing in collective dwellings is excluded in 1981 and included in 1971.

price levels in the countries being compared. Focusing more directly on the "real" GDP per capita requires the use of purchasing-power parities, which measure the cost of a standard basket of goods and services in each of the countries involved. By this measure of real GDP per capita, Canada enjoys the second-highest standard of living among the countries examined.

As well as being generally better off, Canadians are also much healthier today. Table 14-10 reports data on two important indicators, life expectancy and infant mortality, from 1961 to 1976. Both these reflectors of public health have improved steadily, in response to advances in medicine, readier access to health-care services, and better health habits, including life-style changes such as increased physical activity and decreased consumption of cigarettes. Once again, this pattern compares favourably with international standards, as Table 14-11 documents.

Finally, Canadians are more highly educated than ever before. Young people are staying in school longer and, as Table 14-12 shows, the proportion of our population with less than Grade-9 education has fallen sharply since 1941. A more complete breakdown of educational attainment during the past decade is provided in Table 14-13, which demonstrates that over one-third of Canadians have some post-secondary education.

Comparative studies of educational participation rates are particularly difficult to construct because of differences in educational systems across countries. Once again, however, Canada appears to be among the leaders. There is now considerable debate, however, over the degree of success that our educational system is achieving in preparing Canadians to deal with the problems they are likely to confront in the years to come. Even so, it is important to remember that by these measures of welfare Canadians have made considerable progress.

TABLE 14-9 Gross Domestic Product per Capita, 1980

Country	(in nominal and real terms)			
	Nominal Measure		Real Measure	
	GDP per Capita ^a	Rank	GDP per Capita ^a	Rank
Austria	\$10 270	6	8 040	7
Canada	10 760	5	11 430	2
France	12 180	2	9 010	4
Germany	13 240	1	9 400	3
Italy	7 000	9	7 180	9
Japan	8 910	8	8 140	6
Netherlands	11 970	3	8 590	5
United Kingdom	9 390	7	7 610	8
United States	11 450	4	11 450	1

Source: Peter Hill, *Real Gross Domestic Product in OECD Countries and Associated Purchasing Power Parities*, Working Paper No. 17 (Paris: OECD, 1984), Table 1.

a. Expressed in U.S. dollars.

TABLE 14-10 Life Expectancy and Infant Mortality in Canada, 1951-1981

Life Expectancy ^a (years)	Life Expectancy ^a			
	1951	1961	1971	1981
Men	68.33	69.50	69.76	71.67
Women	72.33	74.98	76.56	78.65
Infant mortality				
(per 1000)	38.5	27.2	17.5	9.6

Sources: *Canada Year Book 1975* (Ottawa: Ministry of Industry, Trade and Commerce, 1975), pp. 182-83; *Canada Year Book 1980-1981* (Ottawa: Minister of Supply and Services Canada, 1981), pp. 149-50; Statistics Canada, *Life Tables, Canada and Provinces, 1980-82*, Cat. No. 84-532 (Ottawa: Minister of Supply and Services Canada, 1984), pp. 16-18; Statistics Canada, *Vital Statistics III: Mortality 1981*, Cat. No. 84-206 (Ottawa: Minister of Supply and Services Canada, 1983), p. 11.

a. Life expectancy at one year of age; infants are less than one year old.

When attention turns to the distribution of welfare, however, a different pattern emerges; it is one in which stability, rather than change, is the dominant theme. Health care, indeed, does stand out as one area in which Canadians have come to receive more nearly equal services. Here the

**TABLE 14-11 Life Expectancy and Infant Mortality
in Selected Industrialized Countries, 1960 and 1981**

Country	Life Expectancy ^a				Infant Mortality (0-1 year)			
	1960		1981		1960		1981	
	Level	Rank ^b	Level	Rank ^b	Level ^c	Rank ^d	Level ^c	Rank ^d
Canada	71	2	75	3	27	6	10	4
Australia	71	2	74	4	20	3	10	4
Austria	69	4	73	5	58	10	13	9
France	70	3	76	2	27	6	10	4
Germany (Fed. Rep.)	70	3	73	5	34	9	13	9
Italy	69	4	74	4	44	11	14	11
Japan	68	5	77	1	30	8	7	1
Netherlands	73	1	76	2	18	2	8	3
Sweden	73	1	77	1	17	1	7	1
United Kingdom	71	2	74	4	23	4	12	7
United States	70	3	75	3	26	5	12	7

Source: *World Development Report 1983* (New York: Oxford University Press for The World Bank, 1983), Table 23.

- a. Life expectancy at birth.
- b. From highest to lowest.
- c. Per thousand.
- d. From lowest to highest.

**TABLE 14-12 Distribution of the Population 15 Years of Age and Over,
by Level of Schooling, 1941-1981**

(percentage distribution)				
Year	Less than Grade 9	Grades 9-13 and Other post- Secondary	University Degree	Total 15 Years and Over
1941	56.8	42.2	1.0	100.0
1951	51.9	46.2	1.9	100.0
1961	44.1	53.0	2.9	100.0
1971	33.3	61.9	4.8	100.0
1976	26.7	66.9	6.4	100.0
1981	21.9	70.1	8.0	100.0

Source: Statistics Canada, *Historical Statistical Compendium*, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Ottawa: Statistics Canada, 1985), Table 15.1. See original source for notes to this table.

expansion of the welfare state has had a clearly egalitarian effect: Canada's introduction of universal hospital and medical care insurance removed financial barriers to health-care services and increased the share available to low-income earners.¹

Other elements of the post-war expansion of social spending have not had this equalizing effect. The increased incidence of post-secondary education does not appear to have made that experience more accessible to children of poor families. Indeed, the pattern of educational attainment continues to descend from one generation to another: the higher the education of parents, the more likely their children are to attend university. Table 14-14 reports the relevant data for 1982. Less than 20 per cent of children whose fathers received elementary education or less entered college or university, whereas 68 per cent of children whose fathers were university graduates did so. Unfortunately, there are no national data, compiled over a period of time, on changes in the socio-economic background of university students. It seems unlikely, however, that the proportion of university students from poorer economic backgrounds has increased greatly over the last few decades.

Lack of change appears even more starkly in the distribution of income. As Table 14-15 confirms, the overall distribution of income has changed remarkably little during the past 30 years. The poorest fifth of Canadian families and individuals continues to receive about 4 per cent of all income, while the most affluent fifth receives about 40 per cent. Comparisons among countries are particularly difficult to construct in this area. Nevertheless, studies completed for the OECD and the British Royal Commission on the Distribution of Income and Wealth both agree that Canada ranks approximately midway in terms of degree of inequality in the distribution of income. (See Table 14-16.)

This surface stability, however, masks a wide range of underlying social changes. In the period between 1951 and 1981, for example, the proportion of

TABLE 14-13 Level of Schooling of Canadians 15 Years of Age and Over, 1971, 1976, 1981

Year	Level of Schooling			
	Less than Grade 9	Grades 9-13	Some post-Secondary	University Degree
1971	32.3	45.9	17.1	4.8
1976	25.4	44.1	24.1	6.4
1981	20.7	43.6	27.6	8.0

Source: Statistics Canada, *1981 Census of Canada, Population: Historical Tables for Census, Education Data 1971, 1976 and 1981* (Ottawa: Statistics Canada, 1984), Table 1-1.

Canada's farm population fell from 20 per cent to about 4.5 per cent of our entire nation. The family structure has continued to evolve: large numbers of elderly people and young adults now live independently, and single-parent families are increasing in number. In addition, female participation in the labour force has risen from a rate of 17 per cent in 1951 to about 52 per cent in 1981. Given these and other important social trends, it seems surprising that the distribution of income appears so stable, and existing research has not fully discovered the reasons for this phenomenon. Part of the explanation seems to be that the various social changes have offset one another's effects. According to one study, for example, changes in family composition have worked to increase inequality of income, whereas changes in female participation in the labour force have worked to reduce it. Their effect has combined to produce only limited change in the overall distribution of income.² Whatever the full explanation may be, the gap between the affluent and the poor in Canadian society remains as wide as ever.

The effect of government activities on the distribution of income is also difficult to measure. To determine precisely who benefits from each expenditure program, and who finally bears the burden of each tax is by no means an exact science, and specialists in the field continue to debate these questions. The best evidence available, however, suggests that government does exercise a mildly redistributive effect that is particularly important to low-income Canadians. The most recent comprehensive analysis concluded that in 1969, there was redistribution from the higher- to the lower-income classes.³ This redistributive effect was not the product of taxation, since low-income earners appeared to pay a larger proportion of their income in taxes than did high-income earners. The redistributive effect of expenditures, however, was in favour of low-income groups, and it outweighed the tax effects. As a result, the overall effect of taxes and expenditures was progressive.

Tables 14-17, 14-18 and 14-19 provide more recent, but more partial, views. Table 14-17 confirms that transfer payments continue to be important in reducing income inequality, and have become more so since 1971. Table 14-18 indicates the additional effect of personal income taxes, but not

TABLE 14-14 Highest Education Attained relative to Education of Respondent's Father for Canadians Aged 17-64, 1982

Highest Education Attained by Respondent	Education of Father ^a					Completed University
	Elementary or less	Some Secondary	Completed Secondary	Some post- Secondary	Completed College	
No college or university education	80.3	69.2	53.6	49.0	47.3	31.7
College education	12.6	17.9	21.2	27.0	26.8	23.1
University education	7.1	12.8	25.0	23.9	25.8	45.3
Total college and university education	19.7	30.7	46.2	50.9	52.6	68.4

Source: Statistics Canada, *Supplement, Labour Force Survey, 1982* (Ottawa).

Note: Totals may not sum to 100 per cent because of rounding.

a. Figures represent percentage of respondents in each category.

TABLE 14-15 Income Inequality in Canada, 1951-1981

Year	(pre-tax income, all units) Quintile Shares					Gini Coefficients ^a
	First (lowest)	Second	Third	Fourth	Fifth (highest)	
1951	4.4	11.3	18.3	23.3	42.8	0.390
1961	4.2	11.9	18.3	24.5	41.1	0.371
1971	3.6	10.6	17.6	24.9	43.3	0.400
1981	4.6	10.9	17.6	25.2	41.8	0.377

Source: F. Vaillancourt, "Income Distribution and Economic Security in Canada: An Overview", in *Income Distribution and Economic Security in Canada*, vol. 1, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985), Table 7.

Note: Based on the Survey of Consumer Finances.

a. A Gini coefficient is a measure of inequality such that a decline in coefficient signifies a decline in the degree of inequality.

of other taxes. To establish the redistributive impact of health and educational services is a more complex task, and Table 14-19 provides an estimate of the redistributive effects of those services in 1974, the last year for which estimates are now available.

Another negative impression of the distribution of income comes from focusing on the plight of the poorest members of our society. Canadians disagree about the extent to which broad equality of income is a desirable goal. Nevertheless, there is undoubtedly strong social consensus on the need to help the poorest and most vulnerable Canadians. Over the last 15 years, poverty has re-emerged as a fundamental issue on Canada's social policy agenda, and much debate and experimentation has been devoted to this compelling social problem.

To assess the extent of "poverty" in Canada requires the adoption of a working definition of the term, and much depends on the framing of that definition. Considerable attention has been paid to these points in recent years; indeed, the re-emergence of poverty as a social issue depended heavily on advances in the prevailing conceptions of poverty and on the establishment of modern "poverty lines". Despite these initiatives, the definition of poverty remains inherently subjective, and different approaches to dealing with its problems have been proposed.

The "needs" approach to reducing poverty establishes a minimum income to provide basic necessities such as food and shelter. Statistics Canada adopts this approach in developing its "low-income cut-offs". In effect, the agency defines as "poor" a family that spends more than a given percentage of its income on food, shelter and clothing. That figure was originally set at 70 per cent, but it was adjusted to 62 per cent in 1973 and to 58.5 per cent in 1981, in order to reflect changing patterns of consumption. The "relative" approach, on the other hand, defines poverty in relation to the income of

TABLE 14-16 Income Inequality in Canada and Selected Industrialized Countries

Country	(pre-tax income, various years)									
	OECD Study					Royal Commission Study				
	Economic Families			Economic Families			Individuals			
	Year	Rank	Gini	Year	Rank	Gini	Year	Rank	Gini	
Canada	1969	4	0.382	1975	2	0.379	1974	3	0.472	
Australia	1966-67	10	0.313	—	—	—	1973-74	2	0.477	
France	1970	1	0.416	—	—	—	—	—	—	
Germany (Fed.)	1973	3	0.396	—	—	—	—	—	—	0.0
Japan	1967	9	0.335	—	—	—	—	—	—	
Netherlands	1970	5	0.385	—	—	—	—	—	—	
Norway	1969	6	0.354	—	—	—	—	—	—	
Sweden	1972	7	0.346	—	—	—	1974	5	0.434	
United Kingdom	1973	8	0.344	1975	3	0.355	1972-73	4	—	
United States	1972	2	0.404	1975	1	0.423	1974	1	0.501	

Sources: Malcolm Sawyer, "Income Distribution in OECD Countries", in *OECD Economic Outlook, Occasional Studies* (Paris: OECD, 1976), Tables 3 and 5; Thomas Stark, *The Distribution of Income in Eight Countries*, Royal Commission on the Distribution of Income and Wealth, Background Paper No. 4 (London: H.M.S.O., 1977), pp. 211, 218.

TABLE 14-17 The Effect of Transfer Programs on the Distribution of Income, 1971-1981: Gini Coefficients

Units	Income before Transfers		Income including Transfers	
	1971	1981	1971	1981
All units	0.447	0.439	0.400	0.377
Families	0.386	0.375	0.343	0.320
Unattached individuals	0.558	0.529	0.465	0.405

Source: F. Vaillancourt, "Income Distribution and Economic Security in Canada: An Overview", in *Income Distribution and Economic Security in Canada*, vol. 1, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985), Table 9.

Note: All figures refer to pre-tax income.

TABLE 14-18 Effect of Transfer Programs and Income Tax on the Distribution of Income, 1981

Income	Quintile Shares					Gini Coefficients
	First	Second	Third	Fourth	Fifth	
Income before transfers	1.4	9.6	17.8	26.4	44.9	0.439
Total money income	4.6	10.9	17.6	25.2	41.8	0.377
Total income after income tax	5.3	11.8	18.0	24.9	40.0	0.351

Source: F. Vaillancourt, "Income Distribution and Economic Security in Canada: An Overview", in *Income Distribution and Economic Security in Canada*, vol. 1, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985), Table 5.

society as a whole. The Canadian Council on Social Development, for example, basically defines as "poor" a family of three with an income of less than half of the average Canadian family's income. Table 14-20 presents these two poverty lines for 1983. While there is no consensus on the appropriate poverty line, the Statistics Canada lines are most widely used; Commissioners adopt them in this analysis.

As Table 14-21 shows, the extent of poverty did decline steadily from 1961 to 1981, but it has begun to increase again, as a result of the recession. Canada's social progress clearly depends on its economic strength. As the National Anti-Poverty Organization (NAPO) has emphasized, the increase in family poverty in 1982 and 1983 wiped out the gains that had been registered

TABLE 14-19 The Effect of Transfers and Education/Health Services on the Distribution of Income, 1974

Income	Quintile Shares					Gini Coefficients
	First	Second	Third	Fourth	Fifth	
Income before transfers	1.3	9.8	18.0	25.8	45.2	0.441
Total money income	4.0	10.9	17.7	24.8	42.5	0.389
Total money income plus in kind transfers	4.6	11.7	18.2	24.9	40.6	0.375

Source: Statistics Canada, *Distributional Effects of Health and Education Benefits, Canada, 1974* (Ottawa), Table 1.

TABLE 14-20 Poverty Lines in Canada, 1983

Family of	Statistics Canada ^a	CCSD ^b
One	\$ 9 538	\$ 8 625
Four	19 397	20 125

Source: Canadian Council on Social Development, Task Force on the Definition and Measurement of Poverty in Canada, *Not Enough: The Meaning and Measurement of Poverty in Canada* (Ottawa: The Council, 1984), p. 25.

a. Urban families.

b. CCSD = Canadian Council on Social Development.

in the previous six years.⁴ Large numbers of people stand behind these cold statistics. In 1982, some 2.8 million Canadians fell below the poverty line, leading lives hemmed in on every side by inadequate resources.⁵

A closer look at the profile of poverty in Canada reveals some critical issues. Table 14-22 examines the incidence of poverty among various social groups, highlighting, in particular, the plight of elderly women living on their own and the problems confronting single-parent families with female heads. Poverty is a central fact of life for far too many Canadian women. Table 14-23 broadens the focus by detailing the composition of the "poverty population" as a whole. Clearly, poverty is not simply a problem for the elderly and for single-parent families. Indeed, the largest number of poor people live in families consisting of a couple with children. Poverty is as much a problem of children as of the elderly. Moreover, many of the poor are

TABLE 14-21 Percentage of Canadians with Low Income, 1961-1983

Year	Unattached Individuals	Families	Persons
1961	49.2	27.9	N.A. ^a
1971	43.1	18.3	20.6
1981	37.8	12.0	14.7
1982	37.4	13.2	16.1
1983	41.1	14.6	17.9

Sources: For 1961-1981, F. Vaillancourt, "Income Distribution and Economic Security in Canada: An Overview", in *Income Distribution and Economic Security in Canada*, vol. 1, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985), Table 12. For 1982 and 1983, Statistics Canada, *Income Distribution by Size in Canada, 1982* (Ottawa), *Income Distribution by Size in Canada, Preliminary Estimates 1983* (Ottawa), and *Statistics Canada Daily* (Ottawa, September 14, 1984).

a. N.A. = not available.

TABLE 14-22 The Likelihood of Poverty in Canada, 1981

Characteristics	Percentage of each Category with Incomes below the Low-Income Cut-off	
	Families (Head)	Individuals
Age		
Less than 24	22.7	38.4
25 - 34	12.6	18.2
35 - 44	10.7	22.4
45 - 54	9.0	30.3
55 - 64	10.5	40.9
65 + (Male)	12.9	48.4
65 + (Female)	24.7	62.2
Education		
0 - 8 years	18.9	62.9
High school	11.6	33.3
Post-secondary, no diploma	8.4	34.2
Post-secondary, with diploma	7.0	22.8
University degree	4.7	17.3
Sex/Family Structure		
Children		
Married couple	8.3	—
Married couple, child	8.9	—
Married couple, children and/or relatives	8.0	—
Male-single/parent family	13.8	—
Female-single/parent family	42.8	—

Source: Canadian Council on Social Development, Task Force on the Definition and Measurement of Poverty in Canada, *Not Enough: The Meaning and Measurement of Poverty in Canada* (Ottawa: The Council, 1984).

TABLE 14-23 Composition of Canada's Poor Population, 1982

Family Type	Percentage of All Poor Persons
Unattached Individuals:	
Over 65	13.9
Under 65	20.1
Families:	
Couples, no children	10.9
Couples, with children	35.3
Single parent, male	3.5
Single parent, female	11.8
Other	4.5
Total:	100.0

Source: Canada Employment and Immigration Commission analysis of data from the Survey of Consumer Finances, 1982 (unpublished).

“working poor”, who struggle to meet their needs despite low wages and little help from the social security system. Theirs is a plight too often ignored. The extent of poverty in Canada has been reduced, to be sure, but its persistence stands as a continuing challenge to the welfare state.

Notes

1. For a survey of the evidence on this point, see Gilles Grenier, “Health Care Costs in Canada: Past and Present”, in *Income Distribution and Economic Security in Canada*, vol. 1, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
2. David P. Ross, *The Canadian Fact Book on Income Distribution* (Ottawa: Canadian Council on Social Development, 1980), chapter 2.
3. W. Irwin Gillespie, *The Redistribution of Income in Canada* (Toronto: Gage, 1980), p. 170.
4. National Anti-Poverty Organization, “Poverty in Canada”, statement issued in September 1984.
5. Canada Employment and Immigration Commission analysis of data from the Survey of Consumer Finances, 1982 (unpublished).

The Future: A Crisis of the Welfare State?

Peering into the future is as hazardous a venture as it is important. Canadians' ability to anticipate the developments which will influence the evolution of the welfare state is obviously limited, the more so, the further into the twenty-first century we look. Nevertheless, the future of Canada's social programs will also be affected by the choices that Canadians make now. It is therefore essential that we make the best-informed decisions possible about the major factors likely to affect ourselves and our compatriots in the years to come.

This contention holds true, especially, in light of extensive speculation about a "crisis of the welfare state". A wide variety of observers have argued that the social security systems of Western nations, including Canada, have entered a new and inimical phase and are likely to erode steadily over the decades to come. The prospects for the welfare state, it would seem, can no longer simply be taken for granted.

Can we Canadians continue to count on the full range of social security programs that have become such an integral part of modern society? Recent experience puts the question even more forcefully. The exciting era during which we built our welfare state and rapidly increased our social spending has come to an abrupt end, to be succeeded by a dreary process of restraint and retrenchment. For almost a decade now, the federal government has been struggling to slow the rate of increase in its health and education transfers to the provinces; spending on Unemployment Insurance has been somewhat tightened; and the indexing of major programs such as Family Allowances or Old Age Security has been suspended or capped on several occasions. During the recent recession, in particular, the gap between our social aspirations and our performance has widened as governments have struggled to balance expanding case-loads and declining resources. Social assistance benefits, in particular, have been restrained in virtually every province, sharply in some; and Canadians have witnessed the expansion of food banks and soup kitchens, unwelcome reminders of an earlier era.

Will these pressures ease as Canada and other Western nations recover from the recession? Or are they, in fact, harbingers of an even grimmer future? Those who foresee a deepening crisis of the welfare state point directly to the likelihood of the second possibility and stress trends in Western societies that will last much longer than the current recession.

The "crisis of the welfare state" is a phrase more often used than precisely defined. When people refer to this "crisis", they tend to weave together a variety of concerns about the future. Some see the crisis in terms less of current deprivation than of future difficulties which will steadily worsen over the next decades as the Canadian population ages and makes greater and greater demands on our welfare system. Others fear that modern social spending has become so extensive that it seriously jeopardizes our prospects for investment, productivity and economic growth. The fiscal problems of the welfare state, they insist, will not disappear with the recession. Still others see the crisis in more specifically political terms, suggesting that a growing disenchantment with the changes (or the lack of them) which the welfare

state has brought on Canadian society is undermining the political consensus which sustained its development over the last 50 years. Social spending, they suggest, has once again become the object of ideological controversy, and its future is increasingly in doubt.

Commissioners are far from complacent about either the current performance or the future prospects of our social programs. Although we do not believe that the Canadian welfare state is in danger of collapsing under its own weight, still, the various concerns expressed in crisis scenarios do touch important issues and tensions inherent in modern welfare capitalism. Canadians' capacity to respond effectively to these problems will depend heavily on the performance of Canada's economy. If, over the next decades, Canadians fail to achieve a pattern of at least moderate growth, as envisaged in Part III of this Report, then the tensions that exist between our social commitments and our economic capacity will be exacerbated. In general, however, Commissioners anticipate that governments should be able to maintain their social commitments to the Canadian people.

Let us turn to the first element of the "crisis" concerns: the implications of the aging of the Canadian population. A careful reading of Canada's foreseeable demographic future suggests that Canadians face no inevitable crisis. The changing age structure of our population certainly represents a formidable challenge to which it would richly pay our nation to begin to respond now. The situation, however, does not warrant alarmist visions of an intolerable social burden inevitably growing over the coming years. It is, of course, important to anticipate our demographic future, but our governments now have the unusual luxury of time to plan.

The salient fact which underpins these concerns about the future viability of our welfare state is that the "baby-boom" generation is aging. This large group will enter retirement during the second decade or so of the next century, and it will then depend heavily for its well-being on the productive capacity of the Canadian economy in general and on the redistributive capacity of the welfare state in particular. How large a burden this development will represent for the Canadian people will depend on myriad factors, including our future patterns of productivity growth, immigration, fertility and mortality. We can, however, obtain some initial idea of the extent of the potential problem from looking at population figures tabulated by Statistics Canada.

Table 14-24 presents two projections of the proportion of Canada's population aged 65 and over, at decade intervals, between 1981 and 2030; these projections are based on different assumptions about fertility and immigration. The first is based on expectations of low fertility and low immigration, while the second is based on assumptions of high fertility and high immigration. In effect, the first projection is designed to obtain a reasonable upper estimate of the proportion of old people in our population into the early twenty-first century, while the second is designed to establish a reasonable lower estimate.

A note of caution is in order here: the further into the future we stretch the projections in Table 14-24, the more sensitive to particular assumptions and the more speculative they become. Nevertheless, two particular properties of

TABLE 14-24 Projections of Proportion of Population Aged 65 and Over, 1981-2030

Year	Projection A	Projection B
	% of population	% of population
1981	9.7	9.7
1990	11.7	11.5
2000	13.8	12.7
2010	15.8	13.5
2020	20.5	16.1
2030	26.2	18.8

Sources: Statistics Canada, *Components of Population Growth, 1983-2006* (Ottawa); and Statistics Canada, Demography Division, *Components of Population Growth, 1983-2031* (Ottawa, unpublished).

Note: Projection A is based on assumptions of low fertility and low net immigration. Projection B is based on assumptions of high fertility and high net immigration.

these projections stand out. The first is that regardless of assumptions, the proportion of old people in Canada's population increases very modestly until the turn of the century; the second is that, again regardless of assumptions, this proportion increases rapidly after 2000, reaching a level that is roughly either double or triple the current proportion by 2030. Given the demands that old people inevitably make on pension programs and health services, it does appear, at first sight, that the Canadian welfare state will have to carry a heavy burden indeed 30 to 50 years hence.

Even if we take Table 14-24 at face value, however, it is extremely misleading as a guide to the size of the future burden likely to be imposed by the growing proportion of old people in our population. While the data it presents are based on various assumptions about immigration and fertility, these expectations also have implications for the proportions of young people in the population. The relevant statistics are presented in Table 14-25. As immediately appears, the very assumptions which put an upper limit on the proportion of old people in our population produce a lower limit for the proportion of younger people, and vice versa. Overall, as shown in Table 14-26 the "dependency ratio", that is, the proportion of our population under 15 and over 65, grows between 1985 and 2030 by less than 25 per cent, no matter what assumption we make. Moreover, the proportion of our prime working-age population (Canadians between 25 and 64 years of age) hardly changes, or even rises slightly over the same period. In addition, as projections in Chapter 7 indicated, the proportion in the labour force of 25- to 64-year-olds will likely increase over the period, from 65 to 68 per cent.

Whatever else one might say about these figures, they are hardly the stuff of which crises are made. The dependency ratio will increase by a substantial amount after 2010, if our projections are accurate, but it will hardly move before then. Moreover, even in the year 2030, Canada is unlikely to experience a higher dependency ratio than it did in 1961, when the post-

TABLE 14-25 Projections of Proportion of Population Aged 24 and Younger

Year	Projection A	Projection B
	% of population	% of population
1981	41.6	41.6
1990	34.9	35.6
2000	30.5	34.5
2010	26.4	33.2
2020	23.4	33.5
2030	22.1	33.5

Sources: Statistics Canada, *Components of Population Growth, 1983-2006* (Ottawa); and Statistics Canada, Demography Division, *Components of Population Growth, 1983-2031* (Ottawa, unpublished).

Note: Projection A is based on assumptions of low fertility and low net immigration. Projection B is based on assumptions of high fertility and high net immigration.

TABLE 14-26 Dependency Ratios: Projections of Proportion of Population Aged 0-14 and 65+, 1981-2030

Year	Projection A	Projection B
	% of population	% of population
1981	32.2	32.2
1990	32.1	32.7
2000	30.9	34.5
2010	30.0	34.1
2020	33.9	36.4
2030	38.4	39.5

Sources: Statistics Canada, *Components of Population Growth, 1983-2006* (Ottawa); and Statistics Canada, Demography Division, *Components of Population Growth, 1983-2031* (Ottawa, unpublished).

Note: Projection A is based on assumptions of low fertility and low net immigration. Projection B is based on assumptions of high fertility and high net immigration.

war/baby-boom generation was still young. In that year, our dependency ratio was 41.6, a figure which represents its probable peak for the entire twentieth century.

The implications of demographic change for the overall expenditures of government are less clear, but the basic message is similar. The changing age structure of Canada's population will undoubtedly lead to large increases in the cost of social security and health-care programs, but they should also allow for decreases in educational spending and the cost of other child-related programs such as Family Allowances. Thus, for example, the combination of Family Allowances and Old Age Security accounted for 2.6 per cent of our gross national product in 1950, at the height of the baby boom. That

proportion rose, somewhat erratically, to 3.4 per cent in 1970, but has declined to 3.3 per cent in 1985 and is projected to stand at 3.2 per cent in 1990.

The overall net effect will be an expansion of total spending, since on a per capita basis, expenditures are considerably greater for the elderly than for the young. But present projections of these net increases do not necessarily point to a severe fiscal crisis in the future. Over the next couple of decades, certainly, the expenditures needed to maintain social programs at their current levels should be manageable in the face of population changes. Expenditures will begin to mount more sharply in the third and fourth decades of the twenty-first century, and existing studies differ somewhat on how serious the burden of costs will become. Even the most pessimistic assessments, however, emphasize that the situation then confronting Canada will be comparable to that already in place in many European countries at the beginning of the 1970s; and by the time Canada reaches that point, it is likely to be enjoying a much higher per capita real gross national product. Fundamentally, the degree of strain that a higher proportion of old people in our population will put on the economy 40 years hence will depend a great deal on the extent of economic growth over the intervening period. Given the numbers involved and the time that will elapse before marked changes in the dependency rate set in, even a quite modest, but sustained, rate of increase in our economy's productivity will enable us to accommodate the projected burden.

Accordingly, Commissioners see no reason to conclude, at this stage, that the aging of Canada's population, in itself, represents a crisis of the welfare state. Important decisions about the Canada and Quebec Pension Plans must be made in the next few years, in order to preserve their fiscal integrity, and the adjustments needed will involve significant increases in contribution rates. Indeed, some of the adjustments required in the future will be difficult to implement. To transfer resources between sectors of the social service system is never easy, and the shifts will challenge the adaptability of our institutions. These trends will also have important implications for our federal system, since the balance of federal, provincial and municipal government action in providing services differs as between the young and the old. Education is largely provided by municipalities and provinces. The costs of health care, on the other hand, are shared by the provinces and the federal government, while pensions are mainly a federal responsibility. Thus, as the majority of our dependent population comes to be composed of the old, rather than the young, the costs of supporting the welfare state will be transferred increasingly from municipal and provincial governments to the federal government.

The second element of the "crisis" is the fear that there is a fundamental incompatibility between a mature welfare state and a healthy economy. Throughout the post-war period, the majority of Canadians assumed that social programs would complement the market economy, making it more productive, stable and harmonious. Social spending would be an instrument of automatic, counter-cyclical stabilization; it would contribute to a healthier, better-educated work-force; it would provide the social infrastructure essential to an increasingly urban economy; and it would secure broad social

consensus and stability by integrating poorer groups in the larger national community. During the long period of sustained economic growth that marked the post-war decades, these assumptions seemed plausible, and earlier fears of a basic tension between economic growth and social equity subsided. The economic problems of the 1970s and 1980s, however, have stimulated fresh debate about the fundamental compatibility of the welfare state and the market economy.

In responding to these concerns, it is critical to distinguish between the general question of the overall level of social spending, on the one hand, and the design of specific programs on the other. The broad conclusion of Commissioners is that the overall level of social spending does not constitute a crisis, but that the design of a few of Canada's social programs does create undesirable incentive structures and constrains the productivity of the economy.

At the most general level, Commissioners see no reason to believe that the Canadian welfare state cannot be sustained, or that it creates an unbearable burden for our economy. Comparative evidence suggests that if there is an upper limit to social expenditures in a market economy, Canada has not yet reached it. Other Western nations have managed to combine higher social expenditures as a proportion of GNP with impressive levels of economic performance. Indeed, some observers have argued cogently that social spending has actually made a positive contribution to economic growth.¹ Others have suggested that a well-developed social security system is a precondition of adjustment in the economy: without such protection, workers in declining industries and communities might well redouble their political pressure for subsidies, quotas and other policies designed to prop up their means of livelihood.

Still others have replied, however, that there are clear limits to any positive relationship between economic growth and social spending, and that in certain European countries with very high social expenditures—Belgium and the Netherlands, for example—the welfare state has contributed to difficult economic problems.² Commissioners know of no evidence, however, to suggest that such conclusions are justified in relation to Canada, where total social spending represents a much smaller proportion of gross domestic product. Canada's long-term ability to avoid such a painful dilemma certainly depends on at least moderate economic growth in future decades. However, we see no signs of the imminent collapse of the Canadian economy because of the burdens which the welfare states creates. We Canadians might choose to reduce our social spending in order to ease the deficit or to meet other spending priorities, but we are under no compulsion to do so. Economically, we seem free to choose our social future.

This reality does not mean that no tensions exist between the claims of social programs and economic efficiency. In the first place, the income which the welfare state redistributes must be raised by taxation, and it costs society more than a dollar to provide a dollar's worth of income in the form of services or cash to a needy person. Taxation bears certain efficiency costs; these result from the ways in which individuals allocate their time and efforts in order to cut down on their tax obligations. If, in the process, they distort

the pattern of economic activity so that the resources available to society produce less output, the resulting effect on efficiency is negative. It is exceptionally difficult to reckon efficiency costs precisely. In addition, of course, there are the administrative costs imposed on tax payers by the tax system, and the administrative costs to the public sector of collecting revenues and managing the various social programs in which money is actually spent. However, none of these hidden costs means that social programs are so expensive that they should never be expanded. Even with a full understanding of the costs, the Canadian public might well support expansion of important parts of our welfare state. Nevertheless, the costs do reinforce the need to make the most effective use possible of our social expenditures.

In the second place, there are a number of problems inherent in the operation of individual social programs. It is important to recognize the points at which social programs and economic efficiency conflict and to minimize the conflict wherever possible. The tension between efficiency and economic equality, which some observers see as a sharp two-dimensional trade-off, is, in fact, a good deal more subtle than that. It is possible to provide a given amount of insurance or redistribution of income with varying degrees of efficiency. Plainly, there is scope to increase the economic efficiency of particular programs without exposing Canadian society to greater risk and inequality.

The final element in the "crisis" of the Canadian welfare state is fundamentally political. According to some observers, the broad consensus which sustained the steady expansion of social spending throughout the post-war period is disintegrating, and our welfare state is facing a crisis of legitimacy, as the Canadian public becomes increasingly restive about the fiscal burden generated by welfare-related programs. Once again, this contention does capture important strands of contemporary social debate. Nevertheless, the core of public support for our basic social programs seems solid: Commissioners see no convincing evidence of the emergence of new political consensus among Canadians that would mandate a dismantling of the welfare state.

Clearly, however, the post-war consensus on social policy has weakened. Although debate on the specifics of Canada's social policy was occasionally vigorous during the 1950s and 1960s, there was fairly broad agreement on the desirability of expanding the social service sector, and governments of all political persuasions and at both levels of our federation participated in the development of our social security system. The 1970s and 1980s, however, have witnessed considerably stronger debate. Criticisms have come from both ends of the political spectrum: on the right, a resurgent neo-conservatism is challenging the underpinnings of our social welfare system; on the left, a quieter disillusion has diminished faith in social policy as an effective instrument of reform.

Neo-conservative critics weave together a complex set of arguments. In economic terms, they insist that modern welfare and its associated taxes distort incentives, stifle entrepreneurship, hinder the operation of labour markets, and generally undermine economic growth. In social terms, they assert that reliance on social services reflects an exaggerated view of the

capacity of government to engage in social engineering; the unintended consequences, they maintain, include the undermining of the family, the reinforcement of dependency among the population, and the growth of elaborate bureaucracies which, primarily, advance the interests of the professionals who staff them. Generally speaking, neo-conservatives lament the erosion of personal responsibility, which they see as the moral basis of a healthy society.

The criticism from the left is less dramatic, but no less significant. During the post-war years, social reformers placed great faith in the capacity of the welfare state to usher in a fairer society. Indeed, for some social democratic parties in Europe, educational and social policy displaced nationalization of the economy as the key to economic equality. This faith in the potency of the welfare state was shaken, however, by the rediscovery of poverty during the 1960s, as well as by the growing realization that the overall distribution of income had remained remarkably stable, and that many social programs did not confer most benefit on the poorest members of society. For some observers on the left, the welfare state looked less and less like an instrument of social reform, and more and more like a mechanism for preserving the legitimacy of an unequal society. While this criticism seldom generated explicit political attacks on social security, it did sap the enthusiasm of many who had earlier ranked among the welfare state's most stalwart champions.

This revival of ideological dispute came at the time of decreasing enthusiasm among groups holding mildly reformist and centrist opinion in social policy debates. The developments of the 1950s and 1960s largely fulfilled the social policy agenda of the post-war generation, an agenda that had been fashioned during the Depression and its aftermath. With the major elements of the welfare state in place, a loss of momentum and a growing uncertainty about the next steps were perhaps inevitable. But this hesitancy was reinforced by economic difficulties of the last decade and the criticisms from both right and left. As a result, centrist opinion has been more preoccupied with defending the gains of the past than with charting brave new courses.

Clearly, in recent years, political consensus on social policy has given way to more active ideological debate and uncertainty. This change, however, has not, as yet, generated a crisis in the form of a marked erosion of public faith in the welfare state. There is no evidence of a major shift in the broad views of Canadians about the role of social security in modern society. The Canadian public does not support across-the-board cuts in our social services. Its support for the Canadian welfare state has survived the recent recession, and widespread discussion of government deficits is a testament to the basic legitimacy of our social policy framework. While there have been no tax revolts on the order of that initiated by Proposition 13 in California, Canadians polled in 1982 expressed a clear preference for reductions in government services, rather than tax increases, as a means of reducing deficit levels; but social programs did not automatically head the list when respondents were asked where cuts should fall.³

To be sure, Canadians do differentiate among social programs. Universal public health insurance already seems to be deeply entrenched in our national

culture, and periodic proposals for limitations on this service have elicited little enthusiasm, to say the least. In 1973, for example, 78 per cent of Canadians polled rejected the idea that routine annual medical examinations should not be covered by medicare,⁴ and a decade later, over 80 per cent of those canvassed objected to the practice of extra billing.⁵ Support for many other components of our welfare state is equally solid. Pensioners and disabled persons retain a special place in the affections of Canadians, and opinion polls consistently find wide endorsement of the view that benefits for these groups are inadequate, and that more should be done for them.

Conversely, the concept of individual responsibility continues to condition the Canadian public's attitudes towards programs which support employable people. The Unemployment Insurance program vividly illustrates this view. No other income-security program provoked more controversy during the 1970s. Canadians continued to accept the basic legitimacy of the UI program, agreeing overwhelmingly that "Unemployment Insurance is necessary in today's society." They were just as strongly convinced, however, that stricter controls were essential, as Table 14-27 shows. Today the recent recession has softened these feelings somewhat. Canadians' views about the causes of unemployment changed in the 1980s, and the public preference for restrictions in these benefits eased marginally, as Table 14-28 indicates.

Belief in individual responsibility similarly shapes attitudes towards recipients of social assistance. A requirement that employable men receiving welfare accept "any available work" was endorsed by 78 per cent of those polled in 1962 and by 85 per cent in 1976; in 1979, two-thirds of the Canadian public supported a similar requirement for mothers with children 13 years of age or over.⁶

This tough-mindedness about employable UI recipients mingles with a clear concern for the poor and needy generally, and an apparent willingness to reallocate expenditures to make social security more redistributive towards this group. During the past 15 years, polls have consistently found public support, in principle at least, for greater selectivity in administering the Family Allowance program, while the idea of a guaranteed annual income received substantial support even in the midst of a recession. (See Table 14-29.) Whether such generalized support would continue in response to specific proposals is not clear, of course. In 1971-72, the federal government's proposal to base Family Allowances on an income test met substantial opposition from women who stood to lose their monthly benefit if the change were effected. Again, during the federal-provincial Social Security Review, some governments were nervous about the potential public reaction to the actual implementation of a form of guaranteed income. Nevertheless, Canadians would seem open to a discussion of more selectively managed welfare programs.

Yet, when all is said and done, there is little evidence of a serious erosion of public faith in Canada's welfare state. The uneasy amalgam of collectivist and individualist values which has characterized public preferences during recent decades does not seem to have changed dramatically. In an open society, public attitudes evolve in response to ongoing political and social debate, and it remains possible that Canadians will change their opinions

TABLE 14-27 Public Attitudes towards Unemployment Insurance, 1977-1978

	Agree Strongly or Somewhat (%)		Disagree Strongly or Somewhat (%)	
	Sept. 1977	Sept. 1978	Sept. 1977	Sept. 1978
Unemployment Insurance is necessary in today's society.	82	84	11	10
Stricter controls are needed to ensure that Unemployment Insurance benefits do not go to people who will not take a job.	84	88	6	5
Many people take unfair advantage of Unemployment Insurance.	81	87	9	8

Source: Employment and Immigration Canada, *Statistics on Advertising for Unemployment Insurance: Reports of Three Studies* (Ottawa, 1978); and *Fourth Marketing Research Study on Unemployment Insurance* (Ottawa, 1978).

TABLE 14-28 Public Attitudes towards Unemployment and Unemployment Benefits during the 1980s

1. Responsibility for Unemployment: Responses to statement, "People don't have jobs because they don't want to work."

	1980	1981	1982	1983
	(per cent)			
Disagree	28	31	44	53
Depends	19	18	22	21
Agree	51	50	33	26

2. Public Attitudes Towards Eligibility Requirements for Unemployment Insurance

	1981	1982	1983
	(per cent)		
Loosen	20	29	34
Tighten	66	56	55
No Opinion	14	15	11

Sources: 1. *Decima Quarterly Report on Public Affairs Trends*, Quarters 1, 5, 9, 13 and 17. Data apply to the spring of each year.

2. *Decima Quarterly Report on Public Affairs Trends*, Quarters 7, 11, 15. Data apply to the fall of each year.

TABLE 14-29 Public Attitudes toward a Guaranteed Annual Income

	(per cent)		
Attitude	Summer 1980	Spring 1981	Fall 1982
Favour	66	75	67
Oppose	26	21	28
No opinion	7	4	4

Source: *Decima Quarterly Report on Public Affairs Trends*, Quarters 2, 5, 11.

more decisively in the future. Viewed from the perspective of the mid-1980s, however, the support of Canadians for the broad parameters of the welfare state seems reasonably clear.

Each of three elements of the crisis of the welfare state—demographic, economic and political—raises serious issues or points to enduring tensions in our social security system. In combination, these elements represent a formidable set of challenges. Clearly, difficult choices will have to be made. Moreover, our capacity to respond effectively to them will continue to depend

heavily on the strength of the Canadian economy during the coming decades. None of this means, however, that the Canadian welfare state is entering a terminal phase. Rather, it means that the pressures to use our resources as effectively as possible will be greater than ever.

Notes

1. See for example, John McCallum and André Blais, "Government, Special Interest Groups and Economic Growth", in *Responses to Economic Change*, vol. 27, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
2. See Organisation for Economic Co-operation and Development, *Economic Surveys: Belgium/Luxembourg 1982-1983* (Paris: OECD, 1983); and *Economic Surveys: The Netherlands 1983-1984* (Paris: OECD, 1984).
3. Public opinion data on these issues are discussed in Richard B. Johnston, *Public Opinion and Public Policy in Canada*, vol. 35, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985), chapter 2, especially Tables II-13 and II-14.
4. Canadian Institute of Public Opinion (July 1973), N = 701.
5. *Decima Quarterly Report on Public Affairs Trends* (Fall 1983), N = 1434.
6. Canadian Institute of Public Opinion (September 1962; June 1976; and March 1979, N = 690, 1060 and 1056).

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Labour-Force Trends, Past and Future

The Canadian labour force grew very rapidly in the period that followed the Second World War and particularly during the late 1960s and the 1970s. In the 1980s, that rate of growth has slowed and, according to predictions, will continue to do so. Rapid growth has reflected both a very substantial increase in the source population¹ and some increase in the percentage of that population which participated in the labour force.² As Commissioners demonstrated in more detail in Part III of this Report, however, such aggregate trends may conceal more than they reveal. For example, much of the growth in the source population resulted from the coming to working age of the "baby-boom generation". The number of 15- to 24-year-olds in the source population reached a peak of nearly 4 600 000 in 1980 and is now declining. The labour force of the near future will be aging, as well as growing, less rapidly.

The story of labour-force/participation rates is more complex. The modest overall increase in those rates is a composite created by a dramatic rise in the participation rate of women aged 25 and over, a moderate decline in that of adult men, and a slight upward trend in that of youth. As a result of these changes in demography and participation rates, youths and adult women became a much larger proportion of the labour force, and adult men became a smaller one.

It is projected that the trends in participation rates of all three groups will continue, although some considerable uncertainty exists on this point. If, for example, Canadian courts find that compulsory retirement at age 65 is illegal, some elderly persons may choose to prolong their participation in the labour force. Canada's labour force will become significantly larger, too, if female-participation rates continue to rise. This possibility creates a complex situation, and one that is difficult to project. While more women of all ages

have been joining Canada's work-force since 1956, very distinct age profiles characterize female participation: the figures peak sharply for women in their early twenties and drop off sharply for those beyond the age of 50. If that pattern continues as the population ages, the combination of the two processes will reduce overall female participation rates.

A whole range of other factors also affects labour-force participation. These demographic, sociological, generational, attitudinal and other components are even more difficult to forecast, and their effect in determining the numbers of Canadian women who will decide to participate in the labour force is only partly understood. Conditions of work, availability of child care, and other circumstances probably influence these numbers as well.

Not surprisingly, the demographic characteristics of the Canadian labour force have been a principal focus of discussion. Other features however, are also important. Employment in the service industries and, with it, part-time and white-collar jobs expanded rapidly between 1956 and 1979, especially before 1973. The manufacturing sector accounted for a declining share of labour-market activity, and employment in primary industries declined in absolute numbers. Women were, and remain, employed principally in services, manufacturing and trade, though the proportion of female employees in all industrial groupings has increased substantially. Women and youths are far more likely than adult men to seek or to hold part-time jobs. The number of households with more than one member in the labour force also increased greatly over this period.

Notes

1. Roughly speaking, the civilian, non-institutional population 15 years of age and over, excluding inhabitants of the Territories and of Indian Reserves which are not covered by the Labour Force Survey.
2. In general, those who are working or actively searching for employment.

Labour-Market Imbalances and Unemployment¹

Unemployment is often discussed in terms of labour-market imbalances. There are two basic types of imbalance: structural and aggregate. Structural imbalance occurs in situations where there are mismatches between the characteristics or circumstances such as skills, experience, or location of individuals seeking work and the requirements of vacant jobs. Aggregate imbalance is usually cyclical, occurring as a result of an excess supply of, or excess demand for, labour in general, regardless of individual characteristics or circumstances. Unemployment resulting from aggregate imbalances is often termed "cyclical" or "demand deficient".

A complicating factor in dealing with unemployment is that even when the labour market is in overall balance, the result is not a neat, day-by-day "fit", with each worker in a job and no job vacancies or unemployment. Gaps and dislocations are characteristic of the constant flux of any "real life" labour market. Jobs and firms open, change and expire. Workers enter the labour force and leave it, re-enter, and change jobs, employers and locations. Each of these adjustments takes time. Unemployment that results from this labour-market turnover and from the time workers need to adjust to it is referred to as "frictional". In practice, of course, frictional, structural and demand-deficient, or cyclical, unemployment are not always easy to separate from one another.

The rates of frictional plus structural unemployment constitute, at any given point in time, the non-accelerating inflation rate of unemployment (NAIRU): the extent of unemployment remaining when that caused by deficiencies in aggregate demand is eliminated. Cyclical unemployment must be dealt with by appropriate demand-management measures, as discussed in Chapters 7 to 10 of this Report. However, any policies which can reduce the NAIRU by lessening structural and frictional unemployment serve as very important means of increasing both the efficiency of our economy and the earnings of individuals.

It is very important for those who are genuinely concerned with alleviating the impact of high levels of unemployment on individual Canadians not to misunderstand the concepts involved. The NAIRU is not a fixed figure. It can be lowered by the intelligent application of policies such as training, education, mobility grants and other adjustment programs, and by the careful design of our major income-transfer systems. The currently estimated NAIRU of 6.5 to 8 per cent is too high, and it is essential that any government that wishes to deal with the real problems of unemployed Canadians seek to lower it very substantially. That is the major objective of Commissioners' recommendations with respect to the structural and frictional unemployment problem in Canada.

Structural unemployment and the policies which will help to alleviate it are fairly well understood. We deal with them in other sections. Frictional unemployment is a more recent and less well understood concept, but to understand it is important for those who wish to deal effectively with the unacceptably high levels of unemployment of the 1980s. Commissioners deal with it at some length here, since it is our conviction that the easy nostrums of the past will not provide effective guideposts for the future.

Frictional unemployment has been the subject of important analytical and empirical research in the past decade. In practice, it reflects the effects of such factors as the scarcity of information about job openings or employee availability, and the time and other resources it takes to acquire such information and to act on it. While some frictional unemployment is not only inevitable but desirable in a changing economy, an efficient labour market requires that its extent not be excessive. This requirement, in turn, means that government programs must be reviewed to ensure that they do not inadvertently promote excess frictional unemployment. The analysis of what has come to be called "the new unemployment" bears on this policy need. As with many new branches of analysis, its proponents sometimes overstate this case. Commissioners therefore note that our conclusions with respect to the "new unemployment" analysis are that it is a significant contribution to our knowledge of the phenomenon of unemployment, but that it is important to balance that awareness with a broader understanding of labour markets.

The Analysis of the New Unemployment

In what most analysts would now agree is rather an overstatement, one of the first persons to draw attention to "the new unemployment" wrote in 1973:

Most macroeconomic analyses of unemployment are based on ideas about the causes and structure of unemployment that are inappropriate and out of date . . . The conventional view of postwar unemployment might be described as follows: "The growth of demand for goods and services does not always keep pace with the expansion of the labor force and the rise in output per man. Firms therefore lay off employees and fail to hire new members of the labor force at a sufficient rate. The result is a pool of potential workers who are unable to find jobs. Only policies to increase the growth of demand can create the jobs needed to absorb the unemployed."

This picture of a hard core of unemployed workers who are not able to find jobs is an inaccurate description of our economy and a misleading basis for policy. A more accurate description is an active labor market in which almost everyone who is out of work can find his usual type of job in a relatively short time. The problem is not that these jobs are unavailable but that they are often unattractive. Much of the unemployment and even more of the lost manpower occurs among individuals who find that the available jobs are neither appealing in themselves nor rewarding as pathways to better jobs in the future.²

The Economic Council of Canada in its more balanced 1982 analysis of labour markets in the 1980s notes:

This conclusion has led many labour market analysts to suggest that appropriate measures to reduce unemployment should focus on facilitating rapid job search and increased job holding, rather than on increasing the number of available jobs.³

It seems, then, according to supporters of the "new employment" view, that some of the unemployment originally thought to have been caused by deficiencies in aggregate demand, was, in fact, frictional. This means that the

best method of dealing with it is not through monetary and fiscal policies, as had been thought at first, but through labour-market policies. Indeed, as we noted in Chapter 10, to try to deal with frictional unemployment by the former means would amount to an attempt to lower the general level of unemployment below the NAIRU. The eventual result, according to many economists, would be failure to lower unemployment and increased inflation.

This school of analytic thought developed two sub-branches, which are known as “search theory” and “implicit contract theory”. We shall consider them briefly here.

Search Theory and Evidence

Theory

The basic premise underlying search theory is that knowledge of the characteristics of available jobs and workers is neither perfect nor free. As a consequence, and because of the very substantial differences among workers and jobs, any labour market offers a variety of wages and job characteristics. Thus, when an employee becomes dissatisfied with a particular situation, it must be because of a possibility that the job she or he holds is inferior to others that might be available. Alternatively, it might be said that workers know their actual wages and, at least in a general way, the distribution of wages in the market. They do not know where jobs of a particular kind, paying particular wages are to be found. Thus, having resolved to find other jobs, they seek a “good”, or relatively well-paid, position. The process of search continues as long as the expected returns from keeping on at it exceed the costs. These costs can be reckoned as the sum of additional forgone earnings, out-of-pocket expenses, and psychic discomfort experienced as a result of unemployment.

Given that people search for employment, the question arises: Why might they choose to do so while unemployed, rather than before leaving a previous job or after accepting a temporary one? The suggested answer is that a person can sometimes gather and disseminate information more efficiently while unemployed and thus able to specialize in collecting information.⁴

Answers to several different questions would have to be obtained in order to evaluate the importance of search behaviour in relation to overall unemployment. These questions might include the following: Does the improved access to generally available sources of labour-market information offset the loss of information that is available only in the work-place? Does it also make up for loss of access to internal promotion ladders? Is the additional efficiency of unemployed search, plus the value of any additional leisure that may be enjoyed, great enough to compensate for the forgone earnings, plus the adverse signals to employers and any psychic discomfort that may result from being unemployed? The answers to the first two questions will probably depend on the characteristics of the particular labour market. As for the third, income-maintenance schemes such as unemployment insurance (UI) affect the individual's choice, for such payments reduce the costs of unemployed search and so can be expected to increase its duration.

Evidence

In view of the nature of search theory and related behaviour, one would expect to find both unemployed and employed job searchers, depending on the circumstances of the persons looking for work. One would also expect wage demands to decline as a period of unemployment lengthens. The authors of a recent analysis of employed and unemployed job search found evidence of both types of search behaviour.⁵ (See Table 15-1.) They find that employed search is most prevalent among men, part-time workers, the highly educated, and workers in managerial, professional and service occupations. Among a group of unemployed searchers, there was also some evidence that wage demands were lowered as the period of unemployment lengthened. The study also showed that UI beneficiaries search longer than non-beneficiaries, and that search duration declines as unemployment rates rise. These last two results suggest that job searchers have some control over the duration of their search. Other studies have confirmed this effect of UI entitlements on the duration of periods of unemployment; these are examined below.

TABLE 15-1 Employed and Unemployed Job Searchers

Year	(Canada's annual averages, 1975-1983)			
	(1) Employed (thousands)	(2) Unemployed	(3)=(1)/(2) (per cent)	Unemployment Rate (per cent)
1975	266	596	44.3	6.9
1976	247	642	37.9	7.1
1977	268	765	36.0	8.1
1978	300	828	36.0	8.3
1979	348	762	45.5	7.4
1980	360	783	45.7	7.5
1981	389	811	48.1	7.5
1982	387	1200	37.9	11.0
1983	435	1359	32.0	11.9

Source: Statistics Canada, *Labour Force Annual Averages, 1975-1983*, Cat. No. 71-529 (Ottawa: Minister of Supply and Services Canada, 1984), pp. 342-50, 369-77, 412-20.

Table 15-1 also demonstrates that the ratio of employed to unemployed job searchers changed abruptly between 1976-78 and 1979-81. In 1979, the unemployment-insurance program was amended to reduce benefits and tighten qualification requirements. These revisions had a demonstrable effect on rates of unemployment.⁶ It is estimated that NAIRU dropped by nearly half a percentage point after 1979.⁷ The discontinuity between 1978 and 1979, as shown in Table 15-1, suggests that searchers, faced with an increased relative cost of unemployment, tended to substitute employed for unemployed search. In 1982 and 1983, the proportion of unemployed job searchers rose dramatically. The increase paralleled the marked economic decline of that period and may well mean that many Canadians no longer had the option of

employed search and were engaged in involuntary search for any job, rather than a better one.

There are also a number of less intensive or "discouraged" searchers outside the labour force as defined by Statistics Canada. These people have not searched for jobs within the past four weeks, as required of those classified as unemployed; nevertheless, they indicated, in response to special labour-force surveys, that they wanted and were available for work, but were not seeking it for "labour-market/related reasons". The data suggest that the number of "discouraged" searchers, although smaller than the number of employed searchers, is hardly negligible. Both the number of discouraged workers and the proportion who believe that no work is available seem to be positively related to the unemployment rate.

The authors of one study have concluded that search theory contributes to an understanding of labour-market behaviour in Canada, but that it cannot account for more than half of the unemployment recorded in 1977. They expressed concern that individuals are too prone to quit their jobs and to search too long for new ones, and that too much search is unproductive, leading to no job or no wage gain.⁸ A more general and safer conclusion, however, might be simply that the insights of search theory contribute to Canadians' understanding of the labour-market behaviour of both the employed and the unemployed. The importance of voluntary search varies with time, with macro-economic conditions, and with individual circumstances.

Implicit Contracts

The theory of implicit contracts was developed to explain an aspect of the new unemployment phenomenon that search theory cannot explain: instead of embarking on a job search, some employees simply wait for re-employment during lay-offs. This theory is concerned with attempts by firms and their workers to reach an understanding about variations in wages and employment in the face of economic uncertainties. Whenever a firm invests in the search for workers, or workers invest in search and preparation for employment, an incentive is created for the firm and the worker to remain together in order to realize returns on their investment. Temporary lay-offs, with appropriate understandings about recall, can be viewed as a device for keeping employees and employers together while they adjust to temporary reductions in demand.

A firm facing fluctuations in the demand for its goods and variations in the price it receives for its products can adjust in a variety of ways: it can produce steadily and use inventories as a buffer; it can rent (or buy) its non-human inputs on a variable basis; or it can adjust its labour costs by reducing either working hours or the number of employees. Under what circumstances, then, will variations in employment (lay-offs) be preferred to other forms of adjustment? The theory of implicit contracts suggests that under some special, but not improbable, circumstances, both employers and employees might consider that lay-offs can represent the best choice.

As with search theory, unemployment insurance again enters the picture because it lowers the costs of being "on lay-off". This development, in turn,

may lower the wage which must be paid to workers who risk lay-off and increase the likelihood of their waiting for a recall. Moreover, with a few exceptions such as “developmental” uses, UI is available to laid-off workers, but not to support other means of adjustment such as reduced hours. Thus, when UI payments involve a subsidy, that is, when the premiums of a given group of employers and employees do not cover the full costs of their unemployment benefits, there is an incentive for the subsidized firms to adjust through lay-offs.

While implicit contract theory contributes to our understanding of certain labour-market behaviour, it has limited application for lay-offs, which account for a relatively small proportion of total unemployment. Moreover, only 30 per cent of lay-offs end in an employee’s return to the original employer.

Search and Implicit Contract Theory: Conclusions

Inevitably, there will be some frictional unemployment arising from job-search, and as long as demand for particular products fluctuates, there will also be periodic lay-offs. The extent of job-search unemployment depends on the availability of labour-market information, customs with respect to hiring, the relative cost and efficiency of employed and unemployed search, and the level of turnover in employment. Temporary unemployment because of lay-off depends on the extent of cyclical and seasonal variations in demand; price and wage flexibility; the amount of subsidy provided by unemployment insurance; and the relative costs of adjusting to variations in sales through changes in inventory and production, rather than by varying labour and other inputs.

Unemployed job search is, indeed, partly a process of productive investment in information. In that sense it differs to some degree from both demand-deficient and structural unemployment. There is a desirable level of search behaviour, and too little may be as costly for society as too much. Given demand fluctuations in particular markets, lay-off unemployment, too, may perform a useful economic function when adjustment by other means, such as inventory accumulation, is very costly or even impossible.

While the “new unemployment” analysis cannot be used to explain all aspects of frictional unemployment, it does focus attention on specific labour-market policies to reduce employment instability, and to ease and speed job search. In particular, it has ensured that perverse incentives deriving from some features of unemployment insurance and minimum wages have been subjected to especially searching scrutiny.

Labour-Market Turnover and Duration of Unemployment

When considering the nature and effect of unemployment, it is particularly important not merely to look at the total numbers of unemployed people, but also to consider the rate of movement of people into and out of jobs and the labour force. The data now available to us demonstrate that the “flows” of people into and out of the ranks of the unemployed are very much larger than

the total "stock" of unemployed at any given time. In 1977, for instance, an average of 850 000 persons were unemployed in Canada, but there were over 4 000 000 entries into, and exits from, unemployment. This record implies, of course, that the average completed spell of unemployment must have been fairly short: something in the order of two to three months. Similar results were obtained for each of the years from 1976 to 1980.

To measure the duration of periods of unemployment is a large and complex task which cannot be fully explored here. However, the length of spells of unemployment as reported directly in periodic surveys, such as the Labour Force Survey, is seriously misleading for two reasons. The surveys intercept spells of unemployment in progress, thus underestimating the complete duration of the period they interrupt; they also under-represent the number of very short spells which may be started and completed in the interval between surveys. Research designed to overcome these problems suggests that the average duration of completed unemployment spells is short, lasting, on average, two-and-a-half months, but it also emphasizes that a good deal of unemployment is accounted for by those unemployed for long spells.⁹ An example will help to illustrate this. Suppose that five people experience unemployment. Four of these are unemployed for one month, and one for eight months. The average duration of their periods of unemployment is thus 1.8 months, but two-thirds of the total extent of unemployment is accounted for by the one person's long spell without work.

The duration of periods of unemployment differs by age-sex and regional groupings, with younger persons and women experiencing shorter stretches of unemployment than adult men.¹⁰ This record implies that observed higher unemployment rates for young persons and women are the result of higher frequency or incidence of unemployment that more than offsets their shorter periods of joblessness.

The length of periods of unemployment depends on such economic variables as unemployment levels, labour-force/participation rates, and changes in Unemployment Insurance regulations.¹¹ There is a considerable tendency for unemployment to be concentrated among relatively few people, since some persons suffer long and/or repeated spells without work.¹² These chronic sufferers are found in all demographic and regional groupings.

The brevity of the average spell of unemployment has been cited in the United States as evidence that unemployment was voluntary during a time when jobs were readily available.¹³ More recently, however, other American observers have argued that this inference is unwarranted because many unemployment spells did not end in employment, but in exit from the labour force. Unemployment that ended with the finding of a job lasted, on average, much longer. The total period of joblessness – of being unemployed and out of the labour force because of discouragement – might be much longer than the average "duration of unemployment" as measured by standard labour-force surveys, and for those involved, the two states may well be indistinguishable.¹⁴ In Canada the pattern is similar. Some 45 per cent of all unemployment spells end in withdrawal from the labour force. Here, too, spells ending in employment are longer, on average, than those ending in labour-force

withdrawal. A large proportion of unemployed workers drop out of the statistically measured labour force. Moreover, unemployment is highly concentrated: that is to say, a relatively "small number of workers out of work a large part of the time" bear a large proportion of it.¹⁵

Commissioners consider this last finding highly important for purposes of labour-policy formation, particularly when it is combined with the findings that chronic unemployment particularly affects prime-age and older workers and is not highly concentrated by region. It is partly for this reason that we lay so much stress on the need to expand programs that will facilitate major labour-force adjustments, particularly when the adjustment to change is likely to involve a lengthy period of unemployment.

Increases in Unemployment in the 1960s and 1970s

As Commissioners have stated, in Part III of this Report, the standard explanation for the rise of unemployment in Canada in the 1960s and 1970s was that it reflected, in part, an increase in the NAIRU. That rise, in turn, was attributed to the rapid growth in working-age population, to rising work-force/participation rates, particularly of women, and to increases in frictional unemployment, stimulated by social legislation, particularly by amendments to the Unemployment Insurance Act. As the labour force grew during the 1960s and 1970s, our economy did generate additional jobs at a fairly rapid rate, but the supply of jobs did not quite keep up with the growing supply of labour. As a result, both employment and unemployment grew. Indeed, over the 1970s, the employment-to-population ration (an alternative to the unemployment rate as an indicator of economic performance) actually rose. As our analysis in Part III indicated, over long periods, the unemployment rate will be virtually independent of the rate of labour-force growth. In the short term, however, a rapidly growing population and labour force can present difficult challenges for a nation as it tries to create an adequate supply of jobs.

The 1960s and 1970s also saw a change in the demographic composition of the labour force. Women and youths became a much larger proportion of the total work-force and adult men a smaller one. In this period, the unemployment rates of women and, particularly, of youth have typically been higher than those of adult men. Thus, even if every other circumstance had remained the same, this expansion of groups with higher unemployment rates would, by itself, have raised average unemployment rates. Investigators have found that the effect of this change in labour-force composition has been positive, but small: something in the order of 0.3 percentage points.

Not all of these changes occurred wholly independently of social legislation. A number of researchers have shown that work-force participation rates, especially those of youths and women, increase with the generosity of unemployment insurance payments,¹⁶ and that teenage participation in the labour force responds to changes in minimum wages.¹⁷

There is, however, another aspect of the rapid growth of the female- and youth-labour force that may be important in analysing labour-force trends. If

job requirements are characterized by age-sex differences, demographic groups that grow more rapidly will experience greater difficulty in finding work, and their unemployment rates will rise. This will occur if characteristics that are genuinely relevant to the production process are associated with sex and age. Young entrants into the labour force, for instance, however energetic or well educated they may be, must, of necessity, be inexperienced. Women, too, have, on average, skills and occupational characteristics that differ from those of men, and females seek full- and part-time work in different proportions from males. If the production process is designed, at any given moment, to use fairly rigid mixes of different skills and occupations, structural unemployment can result from disproportionate growth among various elements of the labour force, especially if relative wages do not adjust to changing supply conditions in the labour market. This structural demographic problem may have been quite important over the past decade, adding approximately one percentage point to the average rate of unemployment.¹⁸

There were other changes in the 1970s that empirical evidence would indicate have raised the NAIRU. One which has been extensively examined is that of labour-market legislation, particularly that governing unemployment insurance and minimum wages. Minimum wages can make permanently unemployable some workers whose contribution to output falls below its level. They can also make it difficult for young unskilled applicants to obtain jobs with a large training component which, initially, represents a cost, rather than a source of income to the employer. This reality forces such entrants into unpleasant, dull, dead-end jobs which they quit and change frequently, and between which they are unemployed or out of the labour force. In Canada, minimum wages rose rapidly, relative to the prevailing average level of wages, in the early 1970s, and as a result, unemployment increased.¹⁹

We have already seen how unemployment insurance makes unemployment less costly to those covered. That result is, of course, a primary objective of the program, but taken too far, it can also have deleterious effects. Despite some offsetting influences, this protection can increase both employee turnover and the duration of unemployed job search, and it can encourage lay-offs as a form of adjustment to a firm's demand fluctuations. The 1971 revisions of the Unemployment Insurance Act, which increased the generosity of the UI scheme in several respects, are generally considered to have increased unemployment by some 1 to 2 percentage points.

Thus, in consequence of both demographic and legislative developments, the NAIRU rose in the late 1960s and the 1970s. The forces involved, however, largely spent themselves during the 1970s. The rate of growth of the labour force, both domestic and immigration-related, has declined, and a further decline is projected, quite aside from cyclical circumstances. Offsetting this decline are projections that women's participation rates will continue to rise, though perhaps less quickly. The baby-boom generation has now largely reached working age, and its successors are a smaller cohort of youth. Minimum wages have been declining in relation to the average wage and in relation to prices. The 1971 Unemployment Insurance revisions were soon

followed by a gradual tightening of both law and administrative regulations that culminated in the 1979 revisions. In brief, most of the forces which caused the NAIRU to rise from 1966 to 1977–78 should now be causing it to decline, albeit slowly.

Rapidity of change can also affect the extent of frictional and structural unemployment. When change occurs rapidly, there will be a temporary increase in structural unemployment as the labour market adjusts. Recently economists have started to examine whether the increased volatility of the economic environment since the late 1960s has contributed to a rise in structural unemployment.²⁰ There is some indication that this has, in fact, occurred, although there is so far no agreement on the importance of this factor relative to other factors such as demography and social legislation.

This review of economic theory and empirical evidence is somewhat optimistic in that it suggests that even with the current range of policies, the NAIRU should, in the future, go no higher, at least, than its present level. There are less-optimistic possibilities, however, and the most common is that rapid economic and/or technological change will raise the level of structural unemployment. In this Commission's judgement, the evidence in favour of these less-optimistic possibilities is weak, though it cannot be dismissed entirely. Nevertheless, even if these latter possibilities are given some weight, they strengthen, rather than weaken, the very strong case that we see for labour-market policies that will reduce the NAIRU from its current excessive level of 6.5 to 8 per cent.

Notes

1. This section draws on the paper by S.F. Kaliski, "Trends, Changes, and Imbalances: A Survey of the Canadian Labour Market", in *Work and Pay: The Canadian Labour Market*, vol. 17, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
2. Martin Feldstein, "The Economics of the New Unemployment", *Public Interest* (Fall 1973), pp. 4–5 (emphasis in original).
3. Economic Council of Canada, *In Short Supply: Jobs and Skills in the 1980s* (Ottawa: Minister of Supply and Services Canada, 1982), p. 48.
4. See A.A. Alchian, "Information Costs, Pricing, and Resource Unemployment", in *Microeconomic Foundations of Employment and Inflation Theory*, by E.S. Phelps et al. (New York: Norton, 1970), p. 29.
5. Abrar Hasan and Surendra Gera, *Job Search Behaviour, Unemployment and Wage Gain in Canadian Labour Markets* (Ottawa: Economic Council of Canada, 1982).
6. C.M. Beach and S.F. Kaliski, "On the Design of Unemployment Insurance: The Impact of the 1979 Unemployment Insurance Amendments", *Canadian Public Policy* 9 (June 1983): 164–73; Pierre Fortin and Keith Newton, "Labor Market Tightness and Wage Inflation in Canada", in *Workers, Jobs, and Inflation*, edited by Martin Neil Baily (Washington, D.C.: Brookings Institution, 1982), pp. 243–78; and W.C. Riddell and P.M. Smith, "Expected Inflation and Wage Changes in Canada", *Canadian Journal of Economics* 15 (August 1982): 377–94.
7. See Riddell and Smith, "Expected Inflation and Wage Changes in Canada", p. 390. See also Beach and Kaliski, "On the Design of Unemployment Insurance".

8. Hasan and Gera, *Job Search Behaviour, Unemployment and Wage Gain*.
9. See C.M. Beach, S.F. Kaliski, and V.H. Skulmis, "Analyzing Unemployment Durations for the Annual Work Patterns Survey", paper presented at the Canadian Economics Association meeting, 1983. Another data set—a sample of the Longitudinal Labour Force Data Base covering workers insured by Unemployment Insurance—also largely confirms these findings: S. Magun, "Unemployment Experience in Canada: A Five-Year Longitudinal Analysis", paper presented to the Canadian Economics Association meeting, 1982.
10. See C.M. Beach and S.F. Kaliski, "Some Aspects of Labour Market Behaviour in Canada: A Study Based on Gross Flows Between Labour Market States, 1976–80", paper presented to the Eastern Economic Association meeting, 1982; and A. Hasan and P. de Broucker, "Duration and Concentration of Unemployment", *Canadian Journal of Economics* 15 (November 1982): 735–56.
11. See C.M. Beach and S.F. Kaliski, "On the Design of Unemployment Insurance: The Impact of the 1979 Unemployment Insurance Amendments", *Canadian Public Policy* 9 (June 1983): 164–73.
12. See Hasan and de Broucker, "Duration and Concentration of Unemployment". Some of their results are based on two sets of longitudinal data: the Labour Force Tracking Survey (LFTS) and the Annual Work Patterns Survey (AWPS).
13. See M.S. Feldstein, "Temporary Layoffs in the Theory of Unemployment", *Journal of Political Economy* 84 (October 1976): 937–57.
14. See Kim B. Clark and Lawrence H. Summers, "Labor Market Dynamics and Unemployment: A Reconsideration", *Brookings Papers on Economic Activity* 1 (1979): 13–60.
15. See Hasan and de Broucker, "Duration and Concentration of Unemployment".
16. See, for example, Tom Siedule, Nicholas Skoulas, and Keith Newton, *The Impact of Economy-Wide Changes on the Labour Force: An Econometric Analysis* (Ottawa: Economic Council of Canada, 1976).
17. Robert Swidinsky, "Minimum Wages and Teenage Unemployment", *Canadian Journal of Economics* 13 (February 1980): 158–71.
18. See Frank Reid and Douglas S. Smith, "The Impact of Demographic Changes on Unemployment", *Canadian Public Policy* 7 (Spring 1981): 348–51.
19. See Pierre Fortin and Louis Phaneuf, "Why Is the Unemployment Rate so High in Canada?", paper presented to the Canadian Economics Association meeting, 1979.
20. See M.F. Charette and B. Kaufmann, "Short Run Variations in the Natural Rate of Unemployment" (mimeo, 1984). An analysis of these studies appears in the Commission paper by S.F. Kaliski, "Trends, Changes, and Imbalances: A Survey of the Canadian Labour Market", in *Work and Pay: The Canadian Labour Market*, vol. 17 (Toronto: University of Toronto Press, 1985).

Youth Unemployment

The problem of youth unemployment warrants special attention because of the serious nature of the employment difficulties facing Canadians under twenty-five. Concern about youth unemployment grew during the 1970s as the number of young workers (15- to 24-year-olds) and the unemployment rate of this group rose. The increase was particularly large for young females, a factor which reflects, in part, the general rise in female-unemployment rates.

The youth-unemployment rate has typically exceeded that of adults because entry into the labour force often involves a period of "search" unemployment and because the transition from school to work involves experimentation with a variety of jobs and the accumulation of job-related skills and experience. These relatively constant factors could scarcely account, however, for the increase in the ratio of youth to adult unemployment: that ratio rose from about 1.8 in the early 1950s, to 2.1 in the mid-1960s, to 2.5 in 1976-77. To make matters worse, this increase occurred at a time when unemployment in general was rising. The greater rise in youth unemployment primarily reflects the fact that the various forces—demographic factors and changes in social legislation—accounting for the rise in the non-accelerating inflation rate of unemployment (NAIRU) had a proportionally greater impact on the youth-labour market. As a result, throughout the 1970s, youth accounted for approximately one-quarter of the labour force, but about half of the unemployment.

Since 1977, the ratio of youth to adult unemployment has fallen significantly—from about 2.5 in 1977 to 2.1 in 1983—though this improvement is offset by the higher unemployment rates of both groups. In part, this change may reflect the reversals noted earlier in demographic trends and social legislation. However, the decline appears to reflect cyclical, in addition to secular, forces. The recent recession resulted in a significant decline in the youth work-force/participation rate as many 15- to 24-year-olds remained in, or returned to, schools, colleges and universities. Furthermore, although young workers are particularly susceptible to cyclical economic downturns—they are often among the first to be laid off, and new entrants into the labour force, because of their limited work experience, have difficulty competing for the available jobs—the recession was severe enough to affect many adults as well.

Future employment prospects hinge on this combination of secular and cyclical influences. The longer-term prospects for youth employment appear favourable. Projections of future unemployment rates for different age-sex groups are, of course, subject to considerable uncertainty. Nonetheless, most projections indicate significant declines in the unemployment rate of youths, relative to that of adults, and some forecast very substantial declines.¹ The most important factor in this respect is the declining size of the youth cohort entering the labour force. The demographic trends which worked to the disadvantage of the "baby boom" generation will work to the advantage of future cohorts of young workers.

On the other hand, the medium-term prospects for youth unemployment appear much less favourable. This situation reflects several factors: the currently high unemployment rates among today's youth; the cyclically depressed work-force/participation rate, indicating that a significant number of young people will be entering or re-entering the labour force as employment expands, thus keeping the unemployment rate high; and the projections of a slow return to more normal levels of employment. Because of these circumstances, employment policy should focus more on the current generation of youth, many of whom have little experience of stable work, rather than on the smaller cohorts of youth expected to enter the labour force in the future. The most important contribution which policy can make to the labour-market prospects of the current generation of 15- to 24-year-olds is a more rapid return to full employment, an issue Commissioners addressed in Part III of this Report. In addition, proposals we make with respect to adjustment assistance and education and training are intended to contribute to improved prospects for this group.

Many Canadians considered that the "new unemployment" view, presented earlier in this section, was particularly relevant to youth, a group with high labour-market turn-over and short spells of unemployment. Subsequent research has shown, however, that this assessment of youth unemployment was overly simplified, as it was for unemployment in general. It is true that the average duration of completed spells of unemployment is shorter for youth than for adults, and thus the higher youth-unemployment rate is accounted for by more frequent spells of unemployment. Nevertheless, these averages tell only part of the story. As with adults, youth unemployment is highly concentrated. While a majority of young people find jobs relatively quickly after becoming unemployed, an important minority do not, and this group accounts for much of the sector's unemployment. Furthermore, a significant fraction of youth-unemployment spells end in withdrawal from the labour force, which means that the total duration of joblessness is understated by our usual measures of labour-force status.

Youth unemployment tends to be highest among the least educated, particularly school drop-outs. For example, in 1982, the unemployment rate among 15- to 24-year-olds stood at 18.8 per cent, but at 32 per cent among those with less than eight years of education and at 10 per cent among those with university education. Other factors accounting for prolonged periods of unemployment are location in areas of slow growth and high unemployment, and lack of success at finding a first job. These factors suggest the need for structural policies relating to education and training, the transition from school to work, and regional mobility; these issues are addressed in subsequent parts of this chapter.

Commissioners have noted that, from the long-term perspective which is this Commission's primary responsibility, youth unemployment is a current problem which is expected gradually to disappear. An issue of potential concern for the medium to long term, however, is the prospects for the current generation of youth. Will this group become the unemployed adults of the future? The central question here is whether individuals who suffer

unemployment as teenagers or young adults are to some extent permanently "scarred" in the sense of having relatively high probabilities of adult unemployment or less-rapid earnings growth. Unfortunately, research on this important question is limited to the U.S. experience and is generally inconclusive.² Improved general employment prospects are clearly necessary, and the improvement, when it materializes, may be sufficient to reduce unemployment within this cohort. Still, continued monitoring of its labour-market situation will be needed. It would be unfortunate to have in place a range of special programs for youth at a time when the groups facing the greatest labour-market difficulties were the 25- to 34- or the 35- to 44-year-olds.

Notes

1. For example, one recent study projects youth unemployment rates falling below those of adults before the end of this decade. See David Foot and Jeanne Li, "The Demographic Determinants of Unemployment in Canada", paper presented at the conference "Unemployment: Can It Be Reduced? An International Perspective", sponsored by the Centre for Industrial Relations, University of Toronto, Toronto, November 28-30, 1984.
2. See the studies in R.B. Freeman and D.A. Wise, eds., *The Youth Labor Market Problem: Its Nature, Causes, and Consequences* (Chicago: University of Chicago Press, 1982).

Unemployment Insurance¹

The Unemployment Insurance (UI) system was established in 1940, following the recommendations of the Royal Commission on Dominion-Provincial Relations and the resolution, through a constitutional amendment, of the difficulties which had caused the Employment and Social Insurance Act of 1935 to be declared *ultra vires* the British North America Act. From 1940 to 1971, gradual and modest changes were made in provisions governing the coverage, eligibility, benefits and financing of the Unemployment Insurance Act. Dramatic changes to these key features of the Act were made in the 1970s, primarily in 1971, but also later in the decade. After 1971, the size of the UI system grew dramatically. Expenditures increased from approximately \$700 million in 1970, to almost \$2 billion in 1972, and further to almost \$12 billion in 1983. With current and projected expenditures of approximately \$11 billion per year, Unemployment Insurance is the largest operating program of the federal government.

Unemployment insurance is intended primarily to provide income protection for those who suffer loss of earnings because of unemployment. In addition to its contribution to economic security, however, UI can affect the attainment of other basic goals: in particular, income distribution or equity and economic efficiency. Furthermore, there will generally be trade-offs among these goals, so that designing an optimal system involves difficult choices. Because of its size and the extent of its coverage, the UI system has numerous effects on the functioning of the labour market. Some of these are consistent with the objectives of the program, while others are chiefly unintended adverse consequences. It is Commissioners' intention, in proposing certain changes to the existing UI and other income-support programs, to encourage higher levels of employment, while easing any difficulties of transition for Canadians who will have to seek out new employment opportunities.

Objectives of the UI System

While the primary goal of the UI system is to provide insurance against the loss of income associated with unemployment, other objectives have also been pursued or recommended. These include facilitating labour-market adjustment, redistributing income, and contributing to macro-economic stability. In addition, the program has important effects on economic efficiency and equity.

Unemployment insurance can improve the operation of the labour market if its benefits help workers to find stable employment or contribute to a better matching of abilities with job requirements. Similarly, UI benefits may help unemployed persons to finance job search in locations where employment prospects are more favourable. On the other hand, the program may impede labour-market adjustment if it encourages labour-force participants to remain in regions or occupations with poor employment prospects.

UI can contribute, too, to overall economic stability by acting as an "automatic stabilizer", although this achievement is not a primary objective

of the program. It performs this function by contributing to a government deficit and increasing aggregate demand in recessions, and by contributing to a surplus and decreasing aggregate demand in "booms". At the same time, it has become better recognized in recent years that social programs financed by payroll taxes can contribute to economic instability if their financing provisions result in increases in premiums during recessions, when program expenditures rise.² For example, the substantial increase in UI-premium rates in 1983, when the economy was just emerging from the most severe recession of the post-Second World War period, probably contributed to a slower recovery.

Should the UI system be used to redistribute income and wealth in Canada's economy? Views differ, and the issue has been the subject of debate. Of course, at any point in time, UI redistributes income from those who are currently employed and paying UI premiums to those who are unemployed. The fulfilment of this insurance function, however, does not necessarily imply that a broader redistribution among income classes, regions or occupations is in process.

Some Canadians believe that the UI program should concern itself strictly with social insurance, leaving income redistribution to programs specifically designed for that purpose. Others have suggested that unemployment insurance should contribute to our accepted social objectives relating to income distribution. The UI system has gradually moved in this direction, by such means as extending coverage to workers in seasonal industries, relating benefits to regional unemployment rates, and imposing a surtax on higher-income UI recipients.

This Commission is vitally concerned with poverty and, more generally, with the distribution of income and opportunity among Canadians. Our view, however, is that income redistribution does not constitute an appropriate application of the UI system. There are several reasons for this conclusion. Canadian income-distribution objectives focus on family income and need, while UI benefits are directed to the individual worker and are unrelated to other income or assets. To contribute to redistributive goals, UI benefits would have to be related to family income, and this adjustment would involve testing for other income and assets. In addition, the accounting period (the period over which benefits and income are reconciled) would have to be substantially lengthened, since the weekly accounting period presently in use is much shorter than that usually considered appropriate for income-support programs intended to reconcile income and needs. To change the UI system along these lines would be bound to interfere significantly with the program's social insurance objective which, in Commissioners' view, should be the primary focus of unemployment insurance.

This emphasis on the social insurance function of the UI program does not imply that this Commission opposes programs with redistributive objectives. On the contrary, our view is simply that unemployment insurance is an inappropriate means by which to attempt this important objective, and that explicit income-security programs are much more likely to be effective for this purpose. Yet although Commissioners place primary emphasis on the

insurance objective, the benefit and financing provisions of the UI system should also facilitate, rather than retard, labour-market adjustment; they should contribute to economic stability and be designed to promote equity and economic efficiency within the Canadian economy.

If Canadians accept the social insurance function as the primary purpose of the UI system, a fundamental issue arises: Should unemployment insurance be provided by our governments or by the private sector as are most other forms of insurance? Commissioners believe that there is a sound rationale for publicly provided unemployment insurance. This rationale follows from the fact that private insurance companies are unlikely to offer comprehensive insurance against the risk of unemployment, except possibly in very narrowly specified circumstances. For this reason, there is a place for state-supported unemployment insurance. Society as a whole benefits from a comprehensive scheme which allows the risk of unemployment to be diversified, to some degree, across employers and employees, across regions and over time.

For two reasons, private insurance companies would not find it profitable to offer comprehensive insurance against the risk of unemployment. First, it is often impossible for the insurer to determine the risk that a particular insuree represents. Since low-risk individuals are less likely to purchase insurance, the company might find that only high-risk individuals would buy protection, thus making the sale unprofitable. If, to circumvent this possibility, an insurance company raises its premiums, it might attract a smaller group of customers with an even higher risk of becoming unemployed. Compulsory UI coverage avoids this "adverse selection" problem.

Secondly, individuals can control, to some extent, the risk of becoming or remaining unemployed. To deal with this "moral hazard" problem, insurance companies would seek to obtain the sorts of broad monitoring and surveillance powers that our Canadian society does not wish to grant to private companies. Under our present system, the relationship between unemployment insurance and Canada Employment Centres makes it relatively easy for our society to deal with the moral hazard problem.

Unemployment Insurance and Unemployment

Earlier in this chapter, we Commissioners noted that changes in the UI system have been identified as a factor contributing to rising unemployment rates, and we observed that UI reform would be one way of lowering the non-accelerating inflation rate of unemployment (NAIRU). To demonstrate, however, that making unemployment insurance less generous would lower the NAIRU is not, by itself, a sufficient reason to make such changes. If the Canadian government's sole objective were to lower the NAIRU, it could eliminate unemployment insurance. The issue, rather, is whether UI reforms would benefit Canadian society as a whole. Fortunately a number of the changes that this Commission has to suggest would, in our opinion, both benefit Canadian society *and* lower the NAIRU.

Empirical studies provide very strong support for the view that changes in the UI system—in particular the very substantial changes made in 1971—

72 – have had a significant effect on Canada's unemployment rate. Prior to 1971, the UI benefit rate (benefits as a proportion of previous earnings) varied between 43 and 53 per cent, depending on the existence of dependents; it was raised, in July 1971, to 66.6 per cent of actual insurable earnings, subject to a ceiling on those earnings. Claimants with dependents, who had made low earnings or suffered prolonged unemployment, received 75 per cent of insurable earnings. Whereas the legislation formerly required a minimum of 30 weeks of employment during the two preceding years, the new provisions lowered this requirement to eight weeks for the preceding year. The regulation that every two-week period of employment qualified the claimant for one week of UI payments was changed to a maximum entitlement of 44 weeks of payments for a minimum employment period of eight weeks. The program's coverage was expanded significantly, and extension periods were established on a regional basis. Thus the UI program's eligibility criteria were broadened to cover far more people than ever before, and its benefits were made more "generous". The effects of these changes on expenditures and financing requirements were soon evident. In 1970, UI expenditures stood at approximately \$700 million; in 1972, they approached \$2 billion. Expenditures have continued to grow very rapidly.

Another important set of changes occurred in 1979.³ These lowered the benefit rate to 60 per cent and raised qualification requirements for new entrants and re-entrants into the labour force and for repeat users (that is, claimants who had already drawn substantial benefits in their qualifying periods). Their effect was therefore to make the UI program somewhat less generous. These changes, although much less extensive than the 1971–72 revisions, have also had a significant effect on unemployment, in this instance, reducing the NAIRU.

Unstable Employment: Seasonal and Cyclical

Our Canadian government's current method of financing the unemployment insurance system tends to subsidize industries with unstable employment patterns and to tax those with stable employment patterns. As Table 15-2 demonstrates, the extent of this cross-subsidization is very large. The reason is that premium rates are the same for all industries and employees, although employees in some industries draw much more extensively on unemployment insurance than do others. Without an unemployment insurance system, industries with unstable employment, either seasonal or cyclical, would have to pay a wage premium to attract workers, while industries with very stable employment patterns could pay lower wages and still attract employees. The existence of unemployment insurance as currently funded makes industries with unstable employment patterns more attractive than they would be in the absence of cross-subsidization and thus allows them to pay a smaller wage premium. Conversely, industries with unusually stable employment become relatively less attractive and thus have to pay comparatively higher wages. These differences in wages paid in various industries affect labour costs and, ultimately, product prices. Costs and prices rise in industries with stable employment and decline in industries with unstable employment. Purchasers

of the products react to these changes in relative prices by buying less of a higher-priced product and more of a relatively lower-priced product. Thus, as a consequence of cross-subsidization, a larger proportion of output and employment will be characteristic of industries with unstable employment patterns, and a smaller proportion will characterize industries with stable employment patterns.

**TABLE 15-2 Benefit/Contribution (Benefit/Cost) Ratios
of Unemployment Insurance, by Industry, Canada, 1977**

Industry	Ratio above 1	Ratio below 1
Agriculture	1.50	
Forestry	5.09	
Fishing and hunting	2.10	
Construction	2.46	
Non-durable goods (food and beverages, etc.)	1.24	
Recreation (sports, tourism, etc.)	1.67	
Personal services	1.40	
Teaching		0.38
Public services		0.15
Communications		0.36
Mining		0.67
Finance, insurance, and real estate		0.75
Retail trade		0.84
Commercial services		0.91
Transportation		0.58
Durable goods		0.87
Total	1.00	

Source: Canada, Task Force on Unemployment Insurance, *Cost Ratio Analysis of The Insured Population*, Technical Study No. 12 (Ottawa: Employment and Immigration Canada, 1981), p. 7.

Because premium rates are the same for all firms and industries, there is less incentive for firms to "smooth out" their employment patterns to attract workers. In Canada's dynamic and open economy, changes are continually occurring in the demand for various goods and services. Our climate, too, causes important seasonal variations. Firms can adjust to these fluctuations in various ways: through controlling inventories; diversifying product lines; altering the time lag between receiving orders and making shipments; saving work for slack periods; adjusting employees' working hours; or laying off and rehiring employees as a means of adjusting their numbers. Firms will choose the least-cost method of adjustment. Unemployment insurance, of course, lowers the cost of adjusting through lay-offs and "rehires", relative to other methods of controlling for demand fluctuations.

A disproportionate share of unemployment is generated by Canada's seasonal industries, often concentrated in depressed regions, and by individuals with unstable work attachments in all industries and regions. For this reason the income-security problems of many Canadian workers are intimately tied to the seasonality of economic activity. We Canadians cannot

alter our climate, but we can ensure that our economic policies do not add to the effect of the the forces of nature in creating high unemployment. The unemployment-insurance subsidies that are an integral part of the infrastructure of Canada's forestry, construction, and other industries make them larger, less stable, and more attractive to workers than they would be without this support. Similarly, the intrinsic taxes on stable-employment industries make these industries smaller than they would be without this drain on their resources. Moreover, there are some workers in all industries and regions who prefer a lifestyle of intermittent work punctuated by regular spells of unemployment subsidized by UI benefits. All of these effects raise our economy's average rate of unemployment and lower its level of real output.

The results of one study⁴ of the effect of UI provisions on Newfoundland and Alberta indicate that if the "generosity" of the program in the high-unemployment regions were extended to the whole of Canada, the extent of unemployment and short-term employment would increase significantly. The authors conclude that the main differences in regional unemployment stem from the fact that individuals in regions with high unemployment rates experience many short periods of unemployment as compared to the other regions, where unemployment more commonly occurs during one long period or a few. Such conclusions tend to confirm the hypothesis that the UI program reinforces the concentration of unstable and short-term jobs in regions with high unemployment and a heavy concentration of seasonal industries.

An earlier study⁵ found that for the great majority of industries and provinces, the trend toward reduced seasonality moderated or even reversed after 1971. The estimated decrease in seasonality was particularly large for construction, the industry most heavily subsidized by unemployment insurance.

A general method of dealing with these effects is to relate premiums to a firm's lay-off rate or to the rate at which UI benefits are paid to its workers. Most other insurance systems, both those applied by private sector firms, such as automobile insurers, and those used in the public sector, such as the worker's compensation system, are based on "experience-rated" financing structures. (These firms, however, are experience rated by group rather than individually.) Experience rating of premiums would also reduce the incentive which now exists for firms to use lay-offs as a means of responding to demand fluctuations instead of resorting to employment sharing, inventory accumulation, and reserving work for non-peak periods.

In the United States, where various experience-rating programs operate in different States, a number of empirical studies⁶ have been conducted. They generally agree that inadequate links of premiums to risks explain a significant proportion both of short-term employment and of unemployment. Thus American analysts substantially agree about the effect on job instability of the UI schemes currently in place in their country.

The degree to which Canada's UI system should be experience rated is a matter which will require more detailed analysis and discussion. It seems clear, however, that some such modification of our current UI financing system would improve the incentive structure of the program and lower the NAIRU.

Duration of Job Search

Adjustments in the benefit structure of the UI system would change Canada's unemployment rate in a number of ways. They would affect the duration of job search, for higher benefits lower the cost of search for the individual. Table 15-3 shows that the effect of UI benefit payments on the duration of unemployment has been investigated quite extensively in both Canada and the United States. Commissioners consider the results of U.S. studies in this Report for two main reasons. One is that American UI programs differ from one State to another, and this circumstance provides a clear advantage for research into the ways that different schemes affect the duration of unemployment. The second is that the U.S. studies, especially those conducted since 1976, deal with data on individual UI claimants. This information is of prime importance to any attempt to determine the effect of the system on work incentives. The Canadian studies are also very helpful in that they provide estimates of the effect of the profound changes made in Canada's UI program in the 1970s.

TABLE 15-3 Estimated Impact of an Increase in UI Benefits on Duration of Unemployment in Canada and the United States

Studies ^a	Additional Weeks of Unemployment
Canada ^b	
Green and Cousineau (1976)	
Rea (1977) ^c	+1.4
Maki (1977)	+1.5
Lazar (1978)	+2.0
	+2.0
United States ^d	
Chapin (1971) ^e	
Marston (1975)	+0.4
Ehrenberg and Oaxaca (1976)	+1.0
Classen (1977)	+1.5
Holen (1977)	+1.1
Burgess and Kingston (1977)	+1.0
	+1.0

a. These studies are listed in the notes to Chapter 15, except as noted.

b. Increase from 43 per cent (before 1971) to 67 per cent (1972) in the earnings-replacement ratio.

c. For the overall impact, Rea obtained a maximum estimate of four weeks.

d. Simulated impact of an increase from 50 per cent to 60 per cent in the earnings-replacement ratio.

e. Gene Chapin, "Unemployment Insurance, Job Search, and the Demand for Leisure", *Western Economic Journal* 9 (March 1971): 102-7.

The first part of Table 15-3 shows, in condensed form, the effect that the 1971 changes to the UI program had on the duration of unemployment as estimated in four Canadian studies. Two of these studies⁷ estimate that the changes prolonged the duration of unemployment by two weeks. The other

two, using a somewhat different approach, obtained slightly lower estimates of 1.4 and 1.5 weeks.⁸

More recently, a study examined the effect on duration of unemployment of the 1979 UI amendments.⁹ The authors found that the reduction in the benefit rate from 66.6 to 60 per cent shortened periods of unemployment for all age-sex groups. Other recent studies¹⁰ also found evidence of significant UI effects on the duration of job search. A study¹¹ prepared for this Commission notes that the ratio of employed to unemployed searchers rose between 1976–78 and 1979–81. This suggests that faced with the increased costs of unemployment initiated by the 1979 amendments, searchers looked for work while employed, rather than while unemployed.

One U.S. study¹² compared UI claimants with those unemployed persons who receive no UI benefits. This approach has *prima facie* appeal, but it suffers from considering populations with characteristics that are not easily comparable. Three independent studies¹³ using micro-economic data on the duration of unemployment for UI claimants estimated that the average duration of a spell of unemployment is extended by one additional week for each 10 percentage/point increase in the earnings-replacement ratio of UI benefits. The methodology used in these studies consists in studying differences in the length of unemployment among a number of American States with various UI programs, taking into account the particular characteristics of the population and the economic situation. An earlier study¹⁴ had appeared to obtain a slightly higher estimate of 1.5 weeks, but this result applied to one specific group, that of men over 45. For the other groups considered, the estimated impact was lower.¹⁵ Given the diversity of the data and methods used, the results are robust: in the United States, a rise of 10 percentage points in the earnings-replacement ratio between two States can result in an unemployment period that is longer by one week; in Canada, the 1971 increase, which was almost double that percentage figure, led to an increase of nearly two weeks in the duration of unemployment. U.S. and Canadian results therefore appear to be consistent. For the authors of two other works¹⁶ in the same field, the empirical results are so conclusive that they consider the matter to be resolved.

Consequences of Longer Duration

The longer duration of unemployment inherent in a more generous UI benefit structure may be socially beneficial if it leads to more productive job search. That is to say, the UI benefits represent an investment in job search, and it is important to evaluate the returns from this investment. Greater investment may be justified if it leads to more intensive job search, to higher post-unemployment earnings, or to obtaining a more stable job.

Less is known about these questions than about the effect of benefit levels on unemployment duration. One study,¹⁷ however, has addressed the issue of search intensity. Its authors, using a large sample of American UI claimants, estimated that prolonging the benefit period by one month or increasing the earnings-replacement ratio by 8 percentage points results in a *reduction* of 6.5 per cent in the average number of hours devoted each week to job search: that

is, the intensity of the search diminishes. Thus, the total amount of search is affected by two UI-related factors that offset each other: the number of search weeks increases, but the number of search hours per week decreases.

The empirical results for the effect of UI programs on post-unemployment earnings are diverse, varying between 0.0¹⁸ and 12.3 per cent.¹⁹ Given the significant methodological difficulties associated with this question,²⁰ it is difficult to draw firm conclusions from the evidence. As for the effect of UI benefits on post-unemployment job stability, only one study is available,²¹ and the method it uses is crude. It finds no evidence of a link between the level of UI benefits and the subsequent job stability of the claimants. Thus the empirical studies do not succeed in identifying the benefits of the UI program as clearly as they do its costs.

Interregional Labour-Market Adjustment²²

The general historical pattern of interregional migration has been for movement to occur from regions with relatively low earnings and poor employment opportunities to regions with relatively high income and good employment opportunities. Since the 1930s, Ontario, Alberta and British Columbia have generally experienced net in-migration, while our other provinces have generally experienced net out-migration. These migration flows constitute an important part of adjustment to economic change. Since the movement generally travels out of regions with low wages and/or poor employment prospects into regions with higher wages and better prospects, migration increases the overall level of income in Canada and reduces structural unemployment.

Unemployment insurance can be expected to slow this adjustment process, as it makes location in regions with poor employment prospects relatively more attractive than it would be otherwise. In 1971, the UI program was regionally differentiated: shorter qualification periods and longer benefit entitlements periods were introduced in regions with high unemployment rates. Thus it is likely that the UI program has retarded migration from high-unemployment regions even further since 1971.

Parallel to the 1971 reform of our federal UI program, a historic change occurred in interprovincial migratory flows. Whereas, before that date, the four Atlantic provinces had experienced net out-migration, they began to experience net in-migration from 1971 onwards. Some authors have tried to determine whether at least part of this change in migratory patterns could be explained by the revisions of the UI program. One study²³ restricted to the flows between New Brunswick, Nova Scotia and Ontario, did confirm that there was a significant reduction in out-migration from the two Atlantic provinces, where earnings are low and unemployment rates are high, toward Ontario, where incomes and job prospects are more attractive. The estimated reduction in out-migration associated with the reform of the UI program amounted to 3000 individuals per year. The author rejected the hypothesis that the program also caused return migration.

A more general study,²⁴ covering the impact of all regional transfer payments on the interprovincial allocation of Canada's human resources,

focused particularly on our UI program. On the basis of a very large and detailed micro-economic sample, it also concludes that the post-1971 reduction in out-migration from the Atlantic provinces into the rest of Canada corresponds to a change in the major elements of the UI program. For the Atlantic provinces as a whole, the effect is estimated as constituting a reduction of 8000 out-migrants per year, other circumstances being equal. A more recent Canadian study,²⁵ the only indigenous one to examine the pattern of migration between Census metropolitan areas, also finds strong effects of unemployment insurance on migration, especially after 1971.

Overall, then, it would appear that Canada's UI program does slow labour-market adjustments, in particular, out-migration from lower-income, high-unemployment regions. This effect seems to have become especially strong since the 1971 amendments of the UI Act, which introduced regional differentiation into the program. This relatively new factor contributes to the level of structural unemployment in Canada and to lower living standards for our population as a whole. Commissioners recognize the important equity objectives embodied in the regional differentiation of the UI system. Nevertheless, we believe that these objectives can be attained through other policies which would have fewer adverse effects on unemployment and income.

Summary and Conclusions

Commissioners believe that the present unusual extent of unemployment in Canada is caused by insufficient aggregate demand. Under the circumstances, the UI program is of great help to many Canadians. Moreover, at the macro-economic level, it can stabilize the economy's consumption by automatically supporting the income of the unemployed during a recession. Although its role in automatic stabilization has been reduced in recent years because of changes in the financing of the program, unemployment insurance probably stopped unemployment from reaching an even more dramatic level in the recent severe recession.

On the other hand, it is evident that certain UI provisions affect the incentive structure and adjustment mechanism of our national labour market. On reviewing the evidence compiled by a number of researchers, Commissioners have concluded that the unemployment insurance program:

- Contributes to an increase in the duration of unemployment
- Increases the volume of temporary lay-offs
- Reinforces the concentration of temporary and unstable jobs in high-unemployment and low-wage regions
- Provides too generous a subsidy to Canadians whose labour-force behaviour is characterized by repeated unstable employment.

We are convinced, therefore, that Canada's UI program does not fully satisfy the objectives of facilitating adequate adjustment in the labour market and developing stable and productive jobs. Consequently, the UI system should be revised to make it more efficient in the coming years. We would recommend,

however, that these revisions be implemented gradually as the Canadian economy returns to full employment.

On the financing side, an important reform would be to relate premiums more closely to the risk of lay-off. This process of experience rating should be done on a firm-by-firm, rather than on an industry-group, basis. This Commission views experience rating as the most important change that should be made to Canada's existing UI system. This reform would obviate the need for special programs to encourage work-sharing.²⁶ Unemployment insurance financed by common premium rates biases employers and employees towards lay-offs, rather than reductions in working hours, as a form of response to temporary fluctuations in demand because UI benefits are programmed for persons out of work for a whole week. To offset this unintended bias, a short-term compensation policy was introduced in 1982. While the program has succeeded in encouraging work-sharing, it has cost considerably more than common UI benefits, and its administrative costs are high. Each work-sharing project must be certified on an individual basis by the employer, the employees and the Unemployment Insurance Commission. To remove the bias against work-sharing by introducing experience rating is thus a more sensible approach than the existing system comprised of a financing structure which discourages work-sharing combined with an expensive special program designed to counteract that effect.

While little is known about the degree to which unemployment insurance has contributed to Canada's macro-economic stability, the system's stabilizing properties deteriorated as UI financing was modified between 1976 and 1980. The result of these changes is that most cyclical variations in program costs fall on the private sector. Amendments should be made to the financing arrangements to improve the stabilizing properties of the UI program.

The other unemployment-insurance reforms Commissioners propose relate to benefits. We intend only to indicate the general nature of these changes, since precise details would require further analysis and discussion. In our opinion, an appropriate set of reforms would comprise an approach such as the following:

- Reduce the benefit rate to 50 per cent of earnings
- Raise the entrance requirement to 15 to 20 weeks of insured work over the preceding year
- Tighten the link between the maximum benefit period and the minimum employment period: for example, establish a ratio of two or three weeks of work to qualify for one week of benefits
- Eliminate the regional differentiation of the Unemployment Insurance program.

To eliminate the regional differentiation of the UI program would encourage rather than discourage—as does the present system—labour movement towards regions with higher levels of employment. The existing system tends to perpetuate regional unemployment differentials, and this situation, together with the absence of experience rating, tends to reinforce the

concentration of temporary and unstable jobs in high-unemployment and low-wage regions.

The other suggested changes to the benefit structure are meant to encourage steadier job attachments, more intensive job search during periods of unemployment, and a higher proportion of job search while employed. The recommended benefit ratio of 50 per cent is based on an estimate of the costs and benefits of unemployment insurance, and a subsequent calculation of the rate which would yield the greatest net benefits.²⁷

The proposed changes to the benefit structure also reflect this Commission's view that the UI program has become too large relative to other labour-market programs, and that the employment opportunities for Canadians would be improved by switching some funds from UI support to programs organized to facilitate adjustment to technological and economic change.

The net effect of such changes on the present incentives for unstable work patterns would be dramatic. Under the current scheme, workers with as little as ten weeks of insured work can draw as much as 40 weeks of benefits at 60 per cent of their average insured earnings. Thus they can obtain benefits equal to 240 per cent of their individual earnings. Under the proposed changes, such persons could draw benefits equal only to 17 per cent of earnings from a pattern of repeated unstable work. At the same time, the system preserves a full year of benefit entitlement for individuals who have worked steadily for the preceding two or three years.

The main intent of Commissioners' proposals is to redistribute the funds provided by premiums and by general taxation to more productive ends such as the creation of durable and well-paid employment, better labour-market adjustment, and adequate protection of workers experiencing difficulty in the labour market. We firmly believe that these changes should be considered as part of a package of income-security and labour-market/program reforms. In particular, proposed changes to the UI system should be examined in the context of the Transitional Adjustment Assistance Plan (TAAP), described in the next section, and the Universal Income Security Program (UISP) described in Chapter 19, below. The UISP would provide income-supplementation benefits which would offer additional support to low-income Canadians, whether their basic income derived from work or from work and unemployment insurance. Thus the impact of the UI changes would be cushioned, especially for low-income Canadians with family responsibilities who lose their jobs. In these circumstances, the UISP, in combination with UI, would actually provide more income than current arrangements during the UI entitlement period. It would also provide continuing income supplements for individuals and families who must accept lower pay to re-enter the labour force. We must emphasize, however, that our reformed package would never make it more financially advantageous to avoid work than to participate in the labour force as some income-security programs and some combinations of UI and social assistance may do today.

The suggested changes to UI benefits would have a significant effect on benefit costs. The reduction in benefit rates from 60 to 50 per cent of insurable earnings would result in program savings of at least 17 per cent of

basic benefits. The extended benefits, currently financed from consolidated revenues, are equal to about 21 per cent of regular benefits. It is not possible to calculate the savings from heightened entrance requirements and the closer link between the maximum benefit period and the length of employment, since these factors depend on complex behavioural assumptions. Use of the UI system would also be reduced somewhat by the experience-rating component, the reduction of benefit levels, and the closer link of benefit periods with qualifying periods. Overall, the costs of UI benefits would likely be reduced by not less than 35 to 40 per cent or about \$4 billion at 1985 levels of unemployment. Commissioners believe that these monies should be used to facilitate labour-market adjustments through the creation of a Transitional Adjustment Assistance Program.

Notes

1. This section draws on five research papers prepared for the Royal Commission on the Economic Union and Development Prospects for Canada: J.M. Cousineau, "Unemployment Insurance and Labour Market Adjustments", and Jonathan R. Kesselman, "Comprehensive Income Security for Canadian Workers", in *Income Distribution and Economic Security in Canada*, vol. 1; S.F. Kaliski, "Trends, Changes, and Imbalances: A Survey of the Canadian Labour Market", in *Work and Pay: The Canadian Labour Market*, vol. 17; Morley Gunderson, "Alternative Mechanisms for Dealing with Permanent Layoffs, Dismissals and Plant Closings", in *Adapting to Change: Labour Market Adjustment in Canada*, vol. 18; and John Vanderkamp, "The Efficiency of the Interregional Adjustment Process", in *Disparities and Interregional Adjustment*, vol. 64 (Toronto: University of Toronto Press, 1985).
2. See, for example, M. Ellman, "Recent Dutch Macro-Economic Experience", in *Foreign Macroeconomic Experience: A Symposium*, vol. 24, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985), and "The Crisis of the Welfare State – the Dutch Experience", in *The Economics of Human Betterment*, edited by K.E. Boulding (London: Macmillan, 1984).
3. Since 1971 there have been frequent changes to the UI Act, the regulations it imposes, and the administrative practices that relate to it. For details see G. Dingleline, *A Chronology of Response: The Evolution of Unemployment Insurance from 1940 to 1980*, Task Force on Unemployment Insurance, Technical Paper 2 (Ottawa: Employment and Immigration Canada, 1981); and J. Kesselman, *Financing Canadian Unemployment Insurance* (Toronto: Canadian Tax Foundation, 1983).
4. G. Glenday and J. Alam, "The Labour Market Experience of Individuals: Unemployment Insurance and Regional Effects" (Ottawa: Employment and Immigration Canada, Task Force on Labour Market Development, 1982).
5. S.F. Kaliski, "Some Aspects of the Nature and Duration of Unemployment in Canada", in *Issues in Canadian Policy (II), Proceedings of a Conference*, edited by R.G. Wirick and D.D. Purvis (Kingston: Queen's University, Institute for Economic Research, 1979).
6. See, for example, Martin Feldstein, "The Effect of Unemployment Insurance on Temporary Layoff Unemployment", *American Economic Review* 68 (December 1978): 834–46; Robert H. Topel, "On Layoffs and Unemployment Insurance", *American Economic Review* 73 (September 1983): 541–59; Arlene Holen, "Effects of Unemployment Insurance Entitlement on Duration and Job Search

- Outcome", *Industrial and Labor Relations Review* 30 (July 1977): 445–50; Frank Brechling, "Unemployment Insurance Taxes and Labor Turnover: Summary of Theoretical Findings", *Industrial and Labor Relations Review* 30 (July 1977): 483–94; Henry Saffer, "The Effects of Unemployment Insurance on Temporary and Permanent Layoffs", *Review of Economics and Statistics* 65 (1983): 647–51; and Harry C. Benham, "Unemployment Insurance Incentives and Unemployment Duration Distributions", *Review of Economics and Statistics* 65 (February 1983): 139–43.
7. See Dennis R. Maki, "Unemployment Benefits and the Duration of Claims in Canada", *Applied Economics* 9 (September 1977): 227–36; and Fred Lazar, "The Impact of the 1971 Unemployment Insurance Revisions on Unemployment Rates: Another Look", *Canadian Journal of Economics* 11 (August 1978): 559–70.
 8. See Christopher Green and Jean-Michel Cousineau, *Chômage et programmes d'assurance-chômage* (Ottawa: Economic Council of Canada, 1976); and Samuel A. Rea, "Unemployment Insurance and Labour Supply: A Simulation of the 1971 Unemployment Insurance Act", *Canadian Journal of Economics* 10 (1977): 263–78.
 9. Charles M. Beach and S.F. Kaliski, "Measuring the Duration of Unemployment from Gross Flow Data", *Canadian Journal of Economics* 16 (1983): 258–63.
 10. See Abrar Hasan and Surendra Gera, *Job Search Behaviour, Unemployment and Wage Gain in Canadian Labour Markets* (Ottawa: Economic Council of Canada, 1982); and Glenday and Alam, "The Labour Market Experience of Individuals".
 11. S.F. Kaliski, "Trends, Changes, and Imbalances: A Survey of the Canadian Labour Market", in *Work and Pay: The Canadian Labour Market*, vol. 17, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
 12. Stephen T. Marston, "The Impact of Unemployment Insurance on Job Search", *Brookings Papers on Economic Activity* 1 (1975): 13–48.
 13. See Kathleen P. Classen, "The Effect of Unemployment Insurance on the Duration of Unemployment and Subsequent Earnings", *Industrial and Labor Relations Review* 30 (July 1977): 438–44; Holen, "Effects of Unemployment Insurance Entitlement on Duration and Job Search Outcome"; and Paul L. Burgess and Jerry L. Kingston, "The Impact of Unemployment Insurance Benefits on Reemployment Success", *Industrial and Labor Relations Review* 30 (October 1976): 25–31.
 14. Ronald G. Ehrenberg and Ronald L. Oaxaca, "Unemployment Insurance, Duration of Unemployment, and Subsequent Wage Gain", *American Economic Review* 66 (December 1976): 754–66.
 15. *Ibid.*, p. 765.
 16. Benham, "Unemployment Insurance Incentives"; and Robert H. Topel and Finis Welch, "Unemployment Insurance: Survey and Extensions", *Economica* 47 (August 1980): 351–79.
 17. John M. Barron and Otis W. Gilley, "The Effect of Unemployment Insurance on the Search Process", *Industrial and Labor Relations Review* 32 (April 1979): 363–66.
 18. Classen, "The Effect of Unemployment Insurance on the Duration of Unemployment and Subsequent Earnings".
 19. Burgess and Kingston, "The Impact of Unemployment Insurance Benefits on Reemployment Success".
 20. Finis Welch, "What Have We Learned from Empirical Studies of Unemployment Insurance?", *Industrial and Labor Relations Review* 30 (July 1977): 451–61.
 21. Classen, "The Effect of Unemployment Insurance on the Duration of Unemployment and Subsequent Earnings".

22. For a detailed review of the empirical studies on migration in Canada see the paper by J. Vanderkamp, "The Efficiency of the Interregional Adjustment Process", in *Disparities and Interregional Adjustment*, vol. 64, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
23. Jean-Michel Cousineau, "La mobilité interprovinciale au Canada: le cas de l'Ontario, du Nouveau-Brunswick et de la Nouvelle-Écosse", *L'Actualité Économique* 55 (1979): 501-15.
24. Stanley L. Winer and Denis Gauthier, *Internal Migration and Fiscal Structure: An Econometric Study of the Determinants of Interprovincial Migration in Canada* (Ottawa: Economic Council of Canada, 1982).
25. Paul Shaw, *Inter-metropolitan Migration in Canada: Changes and Determinants over Three Decades* (Ottawa: Statistics Canada, 1984).
26. For a more detailed discussion of the relationship between UI and work-sharing see the paper by Frank Reid, "Reductions in Work Time: An Assessment of Employment Sharing to Reduce Unemployment", in *Work and Pay: The Canadian Labour Market*, vol. 17, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
27. See Martin Neil Baily, "Unemployment Insurance as Insurance for Workers", *Industrial and Labor Relations Review* 30 (July 1977): 495-504, and "Some Aspects of Optimal Unemployment Insurance", *Journal of Public Economics* 10 (1978): 379-402; and J.S. Flemming, "Aspects of Optimal Unemployment Insurance", *Journal of Public Economics* 10 (1978): 403-25.

The Transitional Adjustment Assistance Program (TAAP)

We Commissioners remarked in the previous section that while unemployment insurance (UI) constitutes an essential centrepiece of modern labour-market policy, some elements of the UI program create important barriers to labour-market adjustments. We noted, too, that any steps the Government of Canada can take to lower structural and frictional unemployment by helping Canadians to adjust to new labour-market opportunities will assist efforts to develop high levels of employment at low levels of inflation. To this end, we believe that it is important for the government to consider reinforcing the UI reforms suggested above by means of a program that will encourage positive adjustment to labour-market requirements.

The Transitional Adjustment Assistance Program (TAAP) would assist members of the Canadian labour force to adjust to emerging employment opportunities. To this end, it should focus on skills development and on helping Canadians to achieve labour-force mobility. It might also have occasional use in support of changing development opportunities in communities otherwise subject to serious declines. TAAP benefits would generally be available to workers who had exhausted UI benefits or whose lay-offs appeared to be permanent even if their benefits were not exhausted. Commissioners recommend that the main elements of the TAAP should include:

- *More funding of on-the-job training programs* or, when new jobs can be identified, of programs offered in institutional settings. TAAP beneficiaries might carry with them to new employment an on-the-job/training subsidy or a combination of training-place/purchase money plus larger training allowances. Given that TAAP beneficiaries would usually have experienced considerable uncertainty and frustration in the labour market, it is doubly important that TAAP-related training be associated with real job prospects and not mere make-work projects.
- *Portable wage-subsidy programs*. Since TAAP beneficiaries might often have been without jobs for some time, and since most would probably belong to older age groups, they might often be at a competitive disadvantage in seeking employment. This disadvantage could be largely or entirely overcome by providing them with a portable wage subsidy.
- *Early retirement plans* are often attractive to workers in their late 50s or 60s and might be preferable to other arrangements which would uproot older workers. TAAP benefits should be available for this purpose.
- *Mobility grants* have not so far constituted a major part of Canadian government interventions in the labour force. They might, however, provided that they are large enough, be a very important means of encouraging workers with family responsibilities to search for new job opportunities in new locations. For prime-age workers (those between 25 and 54 years of age), one of the greatest impediments to mobility is often the potential loss of equity in their homes. This is a particularly acute problem when workers face a move from a declining one-industry town to a

more economically successful region, usually associated with a relatively large urban centre. For workers facing such a situation, TAAP benefits should provide some support in the form of compensation for equity loss. TAAP mobility grants might therefore cover removal costs and provide some compensation for lost-asset value in housing.

- *Special projects financing.* Occasionally it might be possible for laid-off workers, faced with a plant closure, either to purchase the plant and reopen it on a co-operative basis or to band together to create new economic development opportunities in the affected community. In some instances, TAAP assistance could be used to support such activities. Nevertheless, this Commission urges the utmost caution in using this approach. TAAP benefits might be available only once in a lifetime or after a very long requalifying period. It would therefore be tragic for many Canadians if they were to lose their TAAP benefits in hopeless economic enterprises.

While it is not possible within the limits of this Report for Commissioners to spell out in detail how the TAAP might operate, we would recommend the following general structures and procedures:

- Eligibility for UI should not be affected by TAAP. Workers should retain their normal UI-benefit entitlements under the reformed UI provisions recommended above. This Commission does not recommend that basic UI entitlements be made contingent on undertaking some form of adjustment-related program such as on-the-job training, although we do support the current developmental uses of unemployment insurance. Instead, we believe, the current "active job-search" requirement is appropriate.
- Eligibility for TAAP benefits might be established on the basis of length of time in the labour force or according to age, or by some combination of these requirements. In general, Commissioners believe that TAAP should be directed to prime-age and older workers (between 25 and 64 years of age), with a labour-force attachment of at least five years.
- Canadians' entitlement to use TAAP must be based on their willingness to undertake adaptive behaviour. TAAP benefits would be provided after UI benefits were exhausted provided that the recipient used the income transfer in one of the ways outlined above. They would be directly related to the costs of adjustments to the recipients and their families and could cover the full costs of adjustment up to a maximum amount. Total benefits available would be proportional to length of time in the labour force up to a maximum of about 15 to 20 years' labour-force attachment. UI recipients might opt to undertake TAAP programs before their benefits were exhausted; if they did so, their basic UI benefits might be added to the TAAP entitlement. TAAP benefits would not be made available if a high probability existed of recall to a previous job. Probably, therefore, they should not be made available in the first few weeks of a period of unemployment unless it were very clear that no opportunities for reasonable employment would open up locally.
- TAAP programs could be delivered through UI/Canada Employment offices, where counselling support would also be available. It might also be possible to contract out the delivery of TAAP, but it would be important to ensure

that contractors, who would also provide counselling, had access to accurate labour-market information and were carefully monitored.

In order to finance the TAAP, Commissioners recommend that UI savings financed from the employer/employee premium accounts of the unemployment-insurance system be passed along, initially as reduced premiums. These savings would accrue from reduced benefit levels, extended entrance requirements, and the closer link between weeks of employment and the maximum benefit period. The government should then raise personal income taxes by an amount sufficient to equal the premium savings and contribute that money to a special Transitional Adjustment Assistance Fund. The fund should be further augmented by the value of the Regional Extended Benefits program. Any other UI cost reductions created by the effects of the benefit changes and of the improved labour-force adjustments which, we hope, would result from the TAAP could simply be passed on to the public in the form of lower premiums.

Since the federal government occupies, on average, only about 66 per cent of the personal income-tax field, it could not automatically capture the equivalent of all of the reduced UI premiums without resorting to a tax increase substantially larger than the UI reduction would offset. For the same reason, provincial governments would capture about one-third of the extra personal income tax as a tax "windfall". The total TAAP funds available to the federal government would therefore be in the order of \$3.3 billion, and the provinces would gain about \$650 million in additional tax revenue. Commissioners hope that provincial governments, too, would earmark these funds for labour-market/adjustment programs, and that joint federal-provincial TAAP arrangements would be funded on an approximate basis of an 80 per cent federal contribution and a 20 per cent provincial contribution.

Alternatively, it might be preferable for the federal government to capture all of the value of the UI premium reduction and to operate TAAP as a purely federal program in order to minimize federal-provincial entanglements. If this arrangement should prove to be desirable, it would be appropriate to introduce a federal-tax surcharge to finance the TAAP. In this way the recaptured funds would be excluded from the base on which provincial taxes are collected, and all of the funds saved would accrue to the federal government. Since this tax would have a specific purpose, it might be appropriate to refer to it as the "TAAP surcharge".

The Transitional Adjustment Assistance Program could make a very substantial difference to many Canadians and could contribute very considerably to the flexibility of our country's labour markets. In 1984, there were an average 253 000 Canadian workers over 25 years of age who had been unemployed for a year or longer. Under the arrangement Commissioners suggest, these people would be the primary TAAP beneficiaries. If the \$4 billion TAAP pool were targeted primarily to help these workers, the benefits available to each would average \$13 700. If only 150 000 Canadians took advantage of the program, the benefits would average \$26 700. Amounts of this size would often be enough to cushion the costs of adjustment very substantially.

In addition, benefits accruing from the Universal Income Security Plan (UISP), described fully in Chapter 19, below, would be available to supplement the incomes of Canadians. These would cushion the effect of lower wages that might be paid in new jobs as TAAP workers "started again" in new locations. Of course, UISP and TAAP portable wage subsidies could combine virtually to eliminate the effect of lower wages for many workers undertaking adjustments.

The individual elements of the TAAP package are not new. Governments have experience in dealing with each of them, and that experience should make it possible to deliver the proposed program efficiently and effectively. What is new is the extent of the adjustment effort, which is larger by a significant margin than current government efforts, even though no net increase in the dollar size of the public sector is inherent in this program. Commissioners believe that an effort of this degree is needed to assist Canadians to make the adjustments required to move our economy successfully into the twenty-first century. We suggest that there is one positive advantage of making the UI changes we propose and initiating the TAAP program: the two undertakings would have a cumulative effect. Our proposals, we believe, would replace the anti-adjustment features of unemployment insurance with the positive adjustment features of TAAP. This double effect should serve greatly to enhance labour-force flexibility and adaptability.

Minimum Wages

Another factor which might have contributed to the rise of unemployment rates in the 1960s and 1970s was changes in the minimum wage. Legislation specifying minimum wages has been in existence for over 40 years. Its stated objectives have varied over time, but the most important and enduring aim has been to reduce poverty. Originally, minimum-wage laws applied only to women and children, but coverage was later extended to most of the labour force. Today, the main exclusions are domestic service and farm labour.

Table 15-4 shows the existing minimum-wage provisions in the various Canadian jurisdictions. The minimum wage for experienced adult workers varies from \$3.50 to \$4.30 per hour. Most jurisdictions also have a minimum wage for younger workers and students, and this varies from \$3.00 to \$3.85 per hour.

Significant numbers of Canadians are still ranked as "working poor", despite the substantial growth in well-being that has occurred since the Second World War. This Commission is vitally concerned with the problem of Canada's working poor, and Commissioners have therefore examined various methods for raising their incomes. Low incomes among these people result from two causes: low wages and poor employment prospects. Clearly, policies which operate to improve both the income and the employment prospects of low-wage earners will be most effective. The minimum wage must be evaluated on the basis of these criteria.

The fundamental difficulty with using a minimum wage as a tool to reduce poverty is that increases in that figure can be expected to reduce employment

opportunities for low-wage earners. There are two main reasons for this. Firms faced with raising the wages of low-paid, low-productivity labour, relative to the price of other inputs into the production process, will find substitutes for the relatively more expensive element. This usually involves the more extensive use of machinery and equipment, though it may also require greater use of higher-wage, higher-productivity labour, which is made relatively more attractive by an increase in the minimum wage. The other reason for reduced employment opportunities derives from the higher labour costs faced by firms accustomed to using low-wage labour. While, initially, a firm may absorb these higher costs by taking lower profits, it will eventually pass them on in the form of higher prices to the consumer of the product, which will lead, in time, to reduced sales and production. This reduction in the scale of operation typically involves an eventual—if not immediate—reduction in employment. Firms employing low-wage labour are typically small and operate in highly competitive industries. Increases in labour costs relative to those of substitute products can have substantial effects on employment, sometimes forcing firms out of business. In addition, labour costs usually amount to a significant proportion of total costs in these industries, which makes employment rates quite sensitive to changes in labour costs. Increases in minimum wages will benefit some low-wage earners: those whose employment opportunities are not reduced. Others, however, will suffer from the reduced employment opportunities. The ones who suffer may well be those with the least skills and the fewest opportunities.

A number of empirical studies have confirmed the “disemployment” or job-loss effects of increases in the minimum wage. The reduction in employment opportunities typically increases the unemployment rate and reduces the labour-market/participation rate of low-wage workers. That is, in response to reduced employment opportunities, some affected workers search for work, while others drop out of the labour force. A recent Canadian study, which examined the effects of changes in the minimum wage on six age-sex groups (males and females in the 15–19 year, 20–24 year, and 25-plus age groups) concluded:

The minimum wage exerts a significant negative effect on the employment and labour force levels of most of the age-sex groups analysed here. Taking the employment and labour force effects together, our results indicate that the minimum wage has a significant positive effect on the unemployment rates . . . of all six age-sex groups. The employment and labour force effects of the minimum wage are neither sufficiently small nor sufficiently offsetting to prevent significant increases in unemployment in face of higher minimum wages. It is important to emphasize that the minimum wage adversely affects not only the unemployment rates...of teenagers, but also those of adult workers. Thus, the analysis here indicates that the effect of the minimum wage on employment and unemployment is stronger and more pervasive than heretofore appreciated.¹

Earlier Canadian studies also found significant effects of changes in the minimum wage on employment, unemployment and labour-force participation. On the basis of these studies, it is estimated that a 10-per cent increase in the minimum wage, relative to the average wage, will raise the unemploy-

TABLE 15-4 Minimum Wages for Experienced Adult Workers and Young Workers and Students

Jurisdiction	Experienced Adult Workers	Effective Date	Young Workers and Students ^a	Effective Date
Federal	\$3.50	01/05/81	Employees under 17: \$3.25	01/05/81
Alberta	\$3.80	01/05/81	Employees under 18 not attending school: \$3.65	01/05/81
British Columbia	\$3.65	01/12/80	Employees 17 and under: \$3.30	01/05/81
Manitoba	\$4.30	01/01/85	Employees under 18: \$3.85	01/01/85
New Brunswick	\$3.80	01/10/82		
Newfoundland ^b	\$3.75	01/01/83		
Nova Scotia	\$4.00	01/01/85	Under-age employees 14 to 18: \$3.55	01/01/85
Ontario	\$4.00	01/10/84	Students under 18 employed for not more than 28 hours in a week or during a school holiday: \$3.15	01/10/84
Prince Edward Island	\$3.75	01/10/82	Employees under 18: \$3.54	01/10/84
Quebec	\$4.00	01/10/81	Employees under 18: \$3.54	01/10/82
Saskatchewan	\$4.25	01/01/82		01/10/81
Northwest Territories	\$4.25	01/08/82	Employees under 17: \$3.75	
Yukon ^c	\$3.60	01/05/81		01/08/82

Source: Compilation by the Commission.

a. New Brunswick, Newfoundland, Saskatchewan and the Yukon Territory have no special rates for young workers or students.

b. Sixteen years of age and over.

c. Federal rate plus ten cents.

ment rate by 0.2 to 0.5 percentage points.² The disemployment effect is even greater than these figures indicate, for some of the reduction in employment leads to reduced labour-force participation in addition to that which leads to increased unemployment.

Raising minimum wages also affects the training opportunities available in the labour market. This effect is particularly important for younger workers whose training and labour-market experience is limited. The expense of providing on-the-job training is often covered by the payment of low wages to employees undergoing a training period: in effect, the training is partly financed by the trainee. Higher wages and higher productivity come into play in the post-training period. High minimum wages tend to discourage such financing methods and, with them, on-the-job training and subsequent wage increases. European countries such as Germany, Austria and Switzerland rely much more on apprenticeship programs than does Canada, for smoothing the transition from school to work. Apprentices' wages are typically quite low compared to those of trained workers: in Germany, for example, the average wage for first-year apprentices is about one-fifth the economy's average industrial wage. However, as the data in Table 15-4 confirm, youth minimum wages in most Canadian jurisdictions are equal to a substantially higher proportion of average industrial wages. Several analysts have suggested that this factor accounts for much of the apparently-low incidence of apprenticeship programs and other on-the-job training in Canada.

The setting of minimum wages also tends to discourage wage flexibility in our economy. Changes in labour-market demand occur in particular regions, occupations or industries and minimum wages inhibit wage adjustment as a mechanism for responding to decreases in demand in particular labour markets, especially those with wages at, or just above, the minimum. As a result, adjustment to change slows down, and unemployment rises, more job vacancies occur, and living standards fall.³

This Commission fully accepts the important social objectives of minimum-wage legislation. Good intentions, however, do not necessarily lead to good policies. The evidence that disemployment resulted from the rapid increases in minimum wages of the 1970s suggests that Canadian governments should be careful in the future not to allow minimum wages to rise too quickly. Because increases in the minimum wage can be expected to have several adverse consequences, Commissioners prefer other approaches to reducing poverty among low-wage earners. We favour two chief options: supplementing the income of the working poor and improving opportunities for employment training in order to raise productivity and earnings.

Notes

1. Joseph Schaafsma and William D. Walsh, "Employment and Labour Supply Effects of the Minimum Wage: Some Pooled Time-Series Estimates from Canadian Provincial Data", *Canadian Journal of Economics* 16 (February 1983), p. 96.
2. See Pierre Fortin and Keith Newton, "Labor Market Tightness and Wage Inflation in Canada", in *Workers, Jobs, and Inflation*, edited by Martin Neil Bailly (Washington, D.C.: Brookings Institution, 1982), p. 253.

3. For a detailed discussion of this point in the context of regional adjustment, see J. Vanderkamp, "The Efficiency of the Interregional Adjustment Process", in *Disparities and Interregional Adjustment*, vol. 64, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).

Equal Opportunity and Equal Pay in Canada's Labour Market

Equality in the Labour Market

The efficient use of Canada's human resources requires not only flexibility and adaptability in our labour markets, but also the assurance of equal opportunities for all Canadians. In the absence of equality of opportunity, the skills and talents of some Canadians will be underused, and the total income produced by our economy will be lower than it need be. At least as important as the combined effect of these deficiencies is the effect of inequalities of opportunity on individual Canadians. In this Commission's hearings, representations were made on behalf of groups as diverse in their needs as women, the physically disabled, Native people, visible minorities, youth, and the elderly, against all of whom society directs discrimination and prejudice. Commissioners heard many tales of opportunities denied for reasons that have nothing to do with inherent ability or motivation. We were told that for many decades, there have been substantial differences in the earnings of men and women, and that over the years, these differences seem to have resisted change. In 1911, for example, employed women earned 53 per cent of the income of employed men. In 1982, women employed on a full-time, full-year basis still earned only 64 per cent of the income of men employed on the same basis. Clearly, issues relating to discrimination in the labour market must be an important concern of this Commission, just as they must be of all Canadians.

While problems relating to equal opportunity have always affected a large number of Canadians, the dramatic growth in the numbers of women in the labour-force has increased concern about equal opportunity and equal pay. In particular, since the numbers of Canadian women working outside the home began to rise rapidly, more attention has been paid to the differences in the earnings of men and women, as well as to the distinctive employment patterns between the sexes. In keeping with the depth of concern about differences in male/female employment opportunities, we Commissioners have focused much of our attention on that aspect of the equal-opportunity problem. However, many of the same points can be made about other aspects of inequality in the work place, and our comments should not be considered applicable to women's issues only.

Empirical Evidence¹

The most important factor in carrying out empirical work on discrimination is to allow for the influence of productivity-related characteristics, such as education, training and experience, which can cause legitimate differences that are not based on discrimination in earnings and employment opportunities. The difficulty of distinguishing between discriminatory and non-discriminatory differences is compounded by the fact that while data exist on many wage-determining factors such as education and training, they are not always available for such factors as labour-market experience and types, not merely years, of education. Furthermore, because of data limitations, studies

carried out to investigate discrimination focus on measures of income or earnings and do not deal with fringe benefits or other factors such as the pleasantness of the working environment, the risk of job-related injury or illness, and the flexibility of working hours. Thus, even the most careful empirical studies need to be interpreted with caution.

There are a number of ways to standardize, or control for the influence of, productivity-related factors, and variations of most of these different procedures have been used in the various Canadian empirical studies. Table 15-5 gives the ratio of female to male earnings, both before and after the adjustments were made (by means of the different procedures) for

TABLE 15-5 Female/Male-Earnings Ratio Unadjusted and Adjusted for Various Productivity-Related Factors in Various Canadian Studies

Study	Year and Data	Gross Unadjusted Ratio	Net Adjusted Ratio
Ostry (1968)	1961 Census	0.59	0.81
Robson & Lapointe (1971)	University faculty 1965/66	0.80	0.90
Gunderson (1975)	Narrowly-defined occupation same establ., 1968/69	0.82	0.93
Shrank (1977)	University faculty 1973/74	0.83	0.95
Robb (1978)	1971 Census, Ontario males <i>cf.</i> single females over 30	0.60 N.A. ^a	0.76 0.94
Gunderson (1979)	1971 Census	0.60	0.77
Stelcner (1979)	University faculty 1976/77	0.91	0.94
Walmsley <i>et al.</i> (1980)	Sask. organization, 1980	0.80	0.87
Gunderson (1980)	1971 Census, Ontario	0.60	0.76
Shapiro & Stelcner (1980)	1971 Census Canada public Canada private Quebec public Quebec private	0.65 0.57 0.66 0.56	0.83 0.72 0.87 0.74
Stelcner & Shapiro (1980)	1971 Census, Quebec, single over 30	0.60 0.83	0.82 0.82
Kapsalis (1980)	1975 Survey of Cons. Finance	0.61	0.87

Source: Morley Gunderson, "Discrimination, Equal Pay and Equal Opportunities in the Labour Market", in *Work and Pay: The Canadian Labour Market*, vol. 17, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).

a. N.A. = not available.

differences in productivity-related factors. While the range of estimates is fairly substantial, reflecting, among other variations, the different data sets and methodologies used, a number of generalizations can be made.

In most studies² that look at the full-time/full-year earnings of individual Canadians across different establishments, occupations, industries and regions, the basic unadjusted ratio of female to male earnings is about 0.60. Adjusting for differences in such measured productivity-related factors as education, experience and broad occupational groups tends to raise the ratio in this comparison to approximately 0.80. Of necessity, however, the adjustments in these studies are often crude, since data limitations preclude controlling for differences in the detailed industrial or occupational distribution. By contrast, studies based on hourly wages in narrowly defined occupations in the same establishment or on case-studies (which automatically control for establishment, region, industry and, sometimes, for occupation) show unadjusted ratios of about 0.80 or higher and productivity-adjusted ratios of 0.90 to 0.95.³ Thus adjusting for differences in productivity-related factors tends to raise the ratio of female to male earnings, although a wage gap of 5 to 10 per cent still seems to prevail within the same establishments. This differential, involving comparisons within the same establishment and occupation, can be thought of as representing narrowly-defined wage discrimination. It does not, however, include the portion of the male-female/earnings difference that can be attributed to occupational segregation.

The component of the 0.40 overall-earnings gap that can be attributed to occupational segregation is more difficult to establish. It is difficult, too, to determine how far that wage gap reflects discrimination inside, as compared to outside, the labour-market, and to decide what career, educational and other choices may or may not indicate discrimination. Empirical studies limited to using broad occupations and industry groupings cannot capture the occupational segregation within such groupings. However, studies based on job-evaluation point scores can provide some information, since they compare or evaluate different occupations. In such studies, differences between wages paid for predominantly male-performed jobs and predominantly female-performed jobs of the same value, as measured by a job-evaluation score, can be taken as a measure of the extent of pay differences arising from the occupational segregation of women into predominantly low-paying jobs traditionally performed by females.

Of course, with respect to occupational segregation, job-evaluation procedures do not enable observers to determine the importance of labour-market as compared to pre-labour-market discrimination or the significance of occupational "choices" that may or may not reflect discrimination. Women may be assigned to low-paying, predominantly female-performed jobs by their employers. Alternatively, they may apply for those jobs in disproportionate numbers because they were streamed into them by their educational and training choices; or because they have little choice, given their household responsibilities; or because such jobs are compatible with a preferred lifestyle. In all likelihood, the explanation is a combination of all of these factors, and the readily available supply of women to do these jobs means that employers may not be under pressure to raise wages in the predominantly

female-performed jobs. Job-evaluation analysts do not consider such supply factors in determining the job-evaluation point scores; these point scores are administratively determined, while wages may well be market determined, because of the influence of supply and demand.

Job-evaluation studies tend to find that females are paid approximately 80 per cent of what males are paid for the same productivity, as measured by a job-evaluation point score. This finding indicates the existence of a gap of 0.20, which reflects the occupational segregation of females into lower-wage jobs. This situation suggests that occupational segregation is likely to be more important than wage discrimination as a source of discriminatory-earnings differentials.

The 0.20 portion of the earnings gap attributable to discriminatory occupational segregation applied to predominantly female-performed occupations (that is, about half of the entire gap of 0.40) is likely, for several reasons, to constitute an overestimate. Not all of the differences apparent in the occupational distribution are likely to reflect discrimination. Moreover, it is difficult to contend that a gap as large as 0.20 is sustainable under the forces of competition, since employers would be under profit-maximizing cost pressures to do most of their hiring to fill positions in the low-paying occupations (assuming that employee functions are at least somewhat interchangeable across the segregated occupations), and this demand pressure should serve to close the discrimination gap. Again, a pay gap of 0.20 for equal productivity, as measured by equal job-evaluation point scores, reflects not only the "undervaluation" of predominantly female-performed jobs, but also the "overvaluation" of male-performed jobs. In addition, job evaluations are more likely to be carried out when there is a wide difference in earnings between predominantly male- and female-performed jobs, and they are less likely to be carried out when there is a small difference.

In sum, evidence suggests that approximately half the earnings gap of 40 per cent can be attributed to non-discriminatory productivity-related factors. Most of the remainder appears to be the result of occupational segregation, and narrowly defined wage discrimination accounts for 5 to 10 percentage points of this portion of the gap.

To some observers, this assessment, which reckons that approximately half of the overall earnings gap of 40 per cent reflects discrimination in the labour market, will seem an insultingly low estimate of a phenomenon which they consider of manifestly greater proportion. To others, it will represent a gross overestimate, failing to account properly for unmeasured characteristics and for choices that reflect the comparative advantage of the groups compared, and entirely inconsistent, in the long run, with competitive economic forces.

Neither of these perspectives can or should be dismissed out of hand as so often happens when this issue is debated. An extremely wide discrimination gap is unlikely to exist, given the forces of competition, but a gap of something like 15 to 20 per cent, reflecting both wage discrimination and occupational segregation, does seem to be credible in a labour market riddled by other imperfections.

In saying that existing evidence indicates that the discriminatory wage gap is approximately 15 to 20 per cent, a proportion equal to, or slightly less than

half of, the overall earnings gap, Commissioners do not mean to minimize the problem. A discriminatory earnings difference of this extent is certainly neither inconsequential nor, in our view, tolerable. Nor is it the only disadvantage operating against women in the labour force. However, it is important to recognize the implications of this assessment for policies such as equal pay and equal opportunity, designed to remove discrimination in the labour market. In particular, if our assessment is approximately correct, such policies, if successful in fully eliminating this type of discrimination, would narrow the overall earnings gap from the current 0.60 to approximately 0.80, leaving a remaining gap of 0.20 attributable to non-discriminatory factors.

Changes over Time

Earlier, Commissioners noted that substantial earnings differences between men and women have existed for decades. One of the most controversial aspects of documenting the extent of the discrimination problem pertains to changes in the earnings gap that have occurred over time. It is important to identify such changes, not only to determine if the problem is growing, but also to establish whether competitive and other forces are reducing the extent of discrimination. Unfortunately, little empirical work has been done on this subject, partly because of the lack of consistent time-series data on the unadjusted and productivity-adjusted earnings gap.

It has been determined, on the basis of narrowly defined occupational wage-rate data for Ontario⁴ that the earnings gap tended to widen over the 1950s and 1960s; however, it narrowed somewhat over the 1970s, even after control for the effect of equal-pay policies. It has also been documented, on the basis of 1981 census data,⁵ that the wage and earnings gap narrowed throughout Canada during the 1970s, partly because of the predominance of younger workers where the gap is smallest. The narrowing of the gap in recent years has also occurred in most other OECD countries.

A rigorous analysis of the extent to which the *discriminatory* wage gap is changing is complicated by the variety of other factors that are also changing over time. One might have expected the gap to widen over time, since the influx of women associated with the dramatic increase in the female labour force could have served to depress the wages of female workers. This outcome might quite well have happened because new entrants into the labour force are likely to be less experienced than the average worker, and therefore paid less.

On the other hand, the gap might have narrowed for a number of other reasons: competitive forces might have dissipated discrimination; increasing female participation in the labour force might have led to the accumulation of work experience, as well as to the reduction of sex stereotyping and prejudice; the larger proportion of youths in the labour force might have reduced the average earnings gap, since the gap is smaller among youths; the increased demand for white-collar workers and their greater degree of unionization might have helped females disproportionately; policy initiatives might have made discrimination more costly. The fact that many of these factors were operative in the 1970s, and that many of the factors giving rise to a widening

of the gap were more prominent in the 1960s, might account for the possibility that the gap widened in the 1960s, but narrowed in the 1970s. However, in the absence of a thorough empirical analysis of the trends and the relative importance of myriad offsetting factors that are at work, it is possible, at this stage, only to speculate on what is happening today and why. It may be, for example, that policy initiatives and competitive pressures are working to narrow the earnings gap, but that they have been able barely to offset the expanding pressure associated with the dramatic influx of women into Canada's labour force.

Expected Future Patterns

The future is even more cloudy than the present. Technological change may help women to the extent that they are less affected than men by the possible decline in job opportunities in the manufacturing sector. Women, however, may also be adversely affected by office automation.

If deregulation occurs on any substantial scale, it is likely to benefit minorities by opening up new jobs (possibly at lower pay) that may devolve to the new entrants into Canada's labour market. Trade liberalization, on the other hand, is likely to affect women adversely, given their predominance among workers in textiles and light manufacturing; but if the process is accompanied by positive adjustment assistance, workers may have the opportunity to leave low-wage, declining sectors of employment for expanding ones. Public sector retrenchment is likely to bear disproportionately on women, both because of their predominance in public sector jobs, and because there tends to be less discrimination in the public than in the private sector. An expanding economy, by contrast, is likely to help break down discriminatory barriers and to provide a disproportionate number of job opportunities for women and minority groups.

Future labour-market developments then, are likely to have substantial implications, both positive and negative, for the future of women in our Canadian labour market. On the one hand, changing circumstances are likely to open up new opportunities for women. On the other hand, there is also likely to be resistance from incumbent workers whose own jobs and pay are threatened. These developments seem to Commissioners to highlight the importance of policy initiatives that will work to establish employment opportunities which will ensure that women have at least equal access to the new jobs. These initiatives are likely to prove more important than policies to encourage equal pay, at least to the extent that wage discrimination is less likely to occur in new jobs where traditional hierarchies are less firmly established.

Dramatic changes which have occurred in the educational and career choices of younger women in the last 15 years will also have important implications for the future. During this period, the numbers of women attending university and continuing their studies past the undergraduate level rose much faster than the comparable figures for men. Thus, in 1966, women comprised 33.7 per cent of undergraduate registration and 18.0 per cent of graduate enrolment; by 1981, these proportions had increased to 46.6 and

37.3 per cent respectively.⁶ Table 15-6 shows the very substantial increases in the proportion of women receiving bachelor's and first professional, master's and doctoral degrees from 1966 to 1980. Table 15-7 illustrates the dramatic increases in female enrolment in the traditionally male-dominated areas of engineering and applied science, medicine, law, commerce and business administration. These statistics supply evidence of a very significant decline in occupational segregation, at least as indicated by university enrolment.

TABLE 15-6 Women as a Percentage of Total Recipients of Degrees Awarded by Canadian Universities and Colleges

Year	Bachelor and First Professional	Master's	Doctorate
1966-67	34.1	20.0	8.1
1967-68	35.2	20.0	9.7
1968-69	36.9	22.0	7.9
1969-70	38.4	21.6	9.3
1970-71	38.1	22.0	9.3
1971-72	39.4	24.8	9.3
1972-73	39.8	26.8	11.2
1974	41.5	27.2	12.3
1975	44.4	28.2	16.1
1976	46.3	30.5	18.8
1977	47.7	31.3	18.0
1978	48.5	32.8	18.2
1979	49.2	36.0	20.5
1980	49.6	37.4	23.0
1981	50.3	39.2	24.2

Source: Thomas H.B. Symons and James E. Page, "The Status of Women in Canadian Academic Life", in *Some Questions of Balance* (Ottawa: Association of Universities and Colleges of Canada, 1984), p. 192.

These developments clearly augur well for the future reduction both of the earnings gap and of occupational segregation. As stated in a recent study published by the Economic Council of Canada, "Over the next few years, it will be mainly the young women who, between 1971 and 1981, succeeded in changing traditional female labour patterns who will be able to move up the promotional ladders in their places of work."⁷

As with many predictions about future developments, however, analysts differ about how large these reductions in the earnings gap and in occupational segregation will be, and about how quickly any change will occur. Any optimistic assessment should not be allowed to obscure the fact that the equalization of earnings and opportunities has been an extremely slow process, and that even the potential acceleration referred to here is unlikely to produce a fully satisfactory rate of progress.

TABLE 15-7 Women as a Percentage of Total Full-Time University Undergraduate Enrolment for Selected Fields of Specialization, Canada

Year	Fine and Applied Arts	Engineering and Applied Science	Medicine	Law	Commerce and Business Administration
1966	61.8	1.4	13.0	6.3	7.8
1967	61.2	1.5	13.8	7.3	8.4
1968	57.4	1.6	15.1	8.8	8.2
1969	56.9	1.6	17.1	10.9	8.5
1970	56.8	1.8	18.1	12.7	10.2
1971	53.9	2.4	20.3	14.9	13.9
1972	57.8	2.6	22.3	18.0	16.1
1973	58.2	3.3	24.3	20.3	18.1
1974	59.1	4.5	26.2	23.7	19.9
1975	60.8	5.5	27.2	26.7	22.3
1981	62.3	10.6	38.5	39.9	37.2

Sources: Statistics Canada, *Historical Statistics of Canada*, 2d ed. (Ottawa: Statistics Canada, 1983), Series 444, 443, 446, 451 and 441); and Thomas H.B. Symons and James E. Page, "The Status of Women in Canadian Academic Life", in *Some Questions of Balance* (Ottawa: Association of Universities and Colleges of Canada, 1984), p. 206.

Implications for Public Policy

The persistence of at least some discrimination in the labour market suggests that there is considerable scope for policy initiatives to create improvements. Such initiatives might move in the direction of equal pay and equal employment opportunities.

Conventional equal-pay legislation dealing with substantially similar work which basically involves the same occupation has some potential function. That function is limited, however, by the fact that its maximum effect is likely to be on the 5 to 10 percentage points of the earnings gap that can be attributed to narrowly-defined wage discrimination within the same occupation and establishment.

Recruiting and promotion policies that deal with equal-employment opportunity could have a broader function, since they can affect occupational segregation, which is generally believed to occur more often and to affect more workers, possibly accounting for 10 percentage points or more of the overall earnings gap. Even though the principle of "equal pay for work of equal value" deals with pay and not with employment opportunities, it could also have a broader function, since it, too, can deal directly with earnings differentials based on occupational segregation. In fact, "equal-value" policies have been advocated specifically to enable comparisons across occupations and thus to overcome the limitations of conventional equal-pay policies which are designed to apply to substantially similar jobs. The scope for equal-value

legislation is likely to correspond to about 10 percentage points of the earnings gap, a figure that is consistent with cases of the actual implementation of the equal-value principle; the correspondence could, however, range as high as 20 percentage points if the legislation ultimately addressed pay increases as high as those applied to “overvalued” male-performed jobs. Of the two policy approaches, the equal-pay principle has been given more emphasis in Canada. This initiative has evolved through a variety of forms, each with a different potential effect.

Equal Work

The earliest legislative initiatives relating to the equal-pay principle—that of Ontario in 1951, for instance—required equal pay for “equal work”. This stipulation significantly hampered the application of the equal-pay principle, since it was interpreted to allow even minor job differences to negate the assertion that equal work was being performed. Comparisons were also restricted to “equal work” within the same company.

Substantially Similar Work

The legislation was then broadened to allow comparisons to be made when there were minor differences in work, as long as that work was “substantially similar”. That expression was often defined in terms of the inputs of skill, effort and responsibility, and according to working conditions, but these criteria were usually assessed independently of one another. This meant that the work had to be substantially similar in *each and every* area of comparison. It was not possible to compensate for a slight shortcoming in one area with a greater amount of some other component.

Composite Approach

The “composite” approach to job evaluation, by contrast, requires only that the work be substantially similar in the *composite* of components of skill, effort, responsibility and working conditions. This broader approach allows a shortcoming in one component to be compensated for by a greater amount of another. It makes the assessment of comparability more difficult, however, because it is often necessary to make trade-offs among the components: to know, for example, whether a bit more responsibility exactly offsets a little less skill.

The composite approach is consistent with the way in which economic forces determine the value of a job. Market forces, for example, do not require two jobs that pay the same to correspond identically in skill, effort, responsibility and working conditions, but only that the market’s evaluation of each of these components sum to the same total. While this approach is consistent with basic economic principles, it does add the requirement that somehow the value of each of these components must be traded off against another.

The composite method of assessing equal work begins to approach the “equal-value” or “comparable-worth” concepts, except that the former usually requires that comparisons be limited to jobs involving substantially the same kind of work. If it allowed for the comparison of dissimilar jobs, then the composite approach would be an equal-value approach.

Equal Value

The principle of equal pay for work of equal value allows dissimilar jobs to be compared and evaluated as equal as long as the “value” of the job, as determined, for example, by a job-evaluation scheme, is the same or sufficiently close to be considered so. The procedure allows comparisons across dissimilar occupations and, in fact, is often supported on the ground that this broadened scope enables it to deal both with wage differences arising from occupational segregation and with unequal pay within the same occupation. In that respect, its scope is much broader than that of conventional equal-pay legislation. However, while comparisons across quite dissimilar jobs are possible in theory, in practice those carried out to date have not involved highly dissimilar jobs, partly because job-evaluation procedures become more tenuous as the jobs under examination become less similar.

Equal-value comparisons tend to be regarded as the strongest form of intervention in support of the equal-pay principle. This is primarily because they cover the broadest range of types of work that can be compared.

Proportionate Value

If, however, there is a logic to using the administrative concept of value as determined by a job evaluation scheme—and this is a possibility that remains to be discussed later—then it would seem illogical (except on grounds of expediency) to allow comparisons between jobs only when they are of *equal* value. Such a restriction would preclude any adjustment, for example, if a job-evaluation scheme found that although a given female-dominated job had a job-evaluation score of 90 per cent, compared to a given male-dominated job, yet its pay ratio was only 80 per cent. It would appear that if the job-evaluation procedure were competent to determine the relative values of jobs, workers performing the female-dominated job should be paid at 90 per cent of the rate for workers performing the male-dominated job.

The principle of proportionate pay for work of proportionate value seems to be a logical extension of the principle of equal pay for work of equal value. Even if the equal-value principle entails excessive allocative or administrative costs, political pressures are likely to push in the direction of proportionate pay if equal value becomes the established norm.

Equal-Pay Legislation in Various Jurisdictions

Table 15-8 summarizes the various forms of equal-pay legislation in Canadian jurisdictions. All our jurisdictions have some form of equal-pay

legislation, usually established during the 1950s, following the International Labour Organisation's Equal Remuneration Convention No. 100, adopted in 1951. Most jurisdictions require that substantially similar work be the basis for comparison, and most allow the composite approach that enables trade-offs to be made among the components of skill, effort, responsibility and working conditions. Five jurisdictions allow for some groups to be exempt from the legislation, and seven allow comparisons to be made across different locations, but require that the comparisons always be made within the same company. Most jurisdictions stipulate that individuals make a complaint if they consider themselves entitled to do so under the legislation. Only three allow for the legislative agency to initiate some investigations, and of these, only Ontario and, to a lesser extent, Saskatchewan seem to follow that practice. The number of investigations is extremely small in many jurisdictions; Ontario and, to a lesser extent, Saskatchewan are by far the most active. It appears that equal-value initiatives, which may be taken only in the federal jurisdiction and in Quebec, are being applied in a cautious fashion.

Additional Issues Pertaining to Equal Value

Since equal-value legislation is likely to be the "wave of the future" with respect to initiatives on the equal-pay front, it is worth examining this concept in more detail.

Job-Evaluation Procedures

Equal-value assessments are invariably based on job-evaluation procedures. Basically, these procedures involve an assessment of a job in terms of its components of skill, effort, responsibility and working conditions. Persons opposed to the equal-value principle have raised a number of arguments against job-evaluation procedures. Many of these arguments contain an element of truth, though they sometimes overstate the case. Perhaps the most common objection is that job-evaluation procedures try to compare "apples and oranges", although this is also done implicitly by market forces.

In addition, job-evaluation procedures face important difficulties in attaching weight to the different components of skill, effort, responsibility and working conditions. For this reason, the comparisons become more difficult, but not necessarily impossible, when they apply to disparate jobs. It is difficult to attach an objective notion of value to a job (that is to say, a concept of value that is independent of the market valuation). Nevertheless, the equal-value principle does relate to the value of the inputs of skill, effort, responsibility and working conditions, and not to the value of the outputs; the latter can still be determined by market forces.

Economic, as Compared to Administrative, Concepts of Value

The equal-value principle focuses on the valuation of job *input* of skill, effort, responsibility and working conditions. The efficient use of labour resources, however, requires that wages adjust to demand and supply conditions in the

Composite

or Trade-off

Approach

Allowed

Concept

of Equality

Date of

1st Law

Jurisdiction

Exempt

Groups^a

Same Company

in Different

Locations^b

Agency

Initiate

Investigations^c

Number of

Investigations

Nfld.	1971	Similar	Yes	Yes	Yes	Yes	Yes	N.A.
P.E.I.	1959	Substan. same	Yes	Yes	Yes	N.A.	No	1980-82
N.S.	1957	Substan. same	Yes	Yes	Yes	Yes	No	1 per year
N.B.	1961	N.A.	Yes	No	No	Yes	No	1980-81: 5 to 7
Que.	1964	Equal value	Yes	No	No	Yes	Rare	32 settled since 1976
Ont.	1951	Substan. same	No ^d	No	No	Yes	Yes	1980-82 ^e : 374
Man.	1956	Substan. same	No	No	No	No	Rare	1978-81: 1
Sask.	1952	Similar	No	Yes	Yes	No	Yes	1980-81: 17 1981-82: 12
Alta.	1957	Substan. similar	Yes	Yes	Yes	No	No	1980-81: 5
B.C.	1953	Substan. similar	No	No	No	Yes	Rare	N.A.
Fed.	1956	Equal value	Yes	No	No	Yes ^f	No	7 settled since 1977 ^g

Source: Extracted from Ontario Manpower Commission, *The Employment of Women in Ontario* (Toronto: The Commission, 1983), Appendix XI, p. 198.

a. "Yes" implies that some groups are exempt. These usually comprise domestics, sometimes foreign labourers and occasionally members of non-profit organizations.

b. "Yes" implies that comparisons can be made in the same company across different locations.

c. "Yes" implies that the enforcement agency, usually an employment-standards division or a human rights commission, can initiate an investigation. "No" implies that an individual must make a complaint before an investigation can occur. "Rare" implies that although the legislation allows the agency to initiate an investigation without a formal complaint this seldom if ever occurs.

d. Proposed Bill 141, before legislature as of December 1984, contains composite.

e. Between April 1980 and February 1982, 374 investigations (115 routine audits, 259 arising from complaints), with 86 violations for 1054 employees, who received average settlements of \$519.

f. Comparisons can be made in same company in different locations, but within an established geographic area.

g. Including two major group settlements involving 3480 workers. Approximately 20 complaints were under investigation in or close to 1983.

labour market. Administrative assessments are made by job-evaluation agents who, in assigning point scores to each job, need not take into account conditions of labour-market supply and demand. Their assessment will be based on their perception of the "objective" worth of the various tasks required to perform a given job. That is to say, supply conditions (which are established by the willingness of workers to work in certain jobs) and demand conditions (which are established by the need of employers to fill those jobs) do not enter directly into the job evaluator's assessment of the point score to be assigned to each job. They may enter in an indirect fashion in that, for example, certain working conditions may be assigned a higher point score because few people are willing to accept them. Nevertheless, the point-score evaluations of each job are based, in the main, on an administrative (that is, a job evaluator's) concept of the value of a job.

In our current system, supply and demand conditions are important factors in determining the pay rates associated with different jobs. For example, females, on average, may be willing to supply their services in certain jobs because they prefer the working conditions associated with those jobs or because of off-the-job constraints such as family commitments. Similarly, if there were little demand on the part of employers for some of the skills required in predominantly female-performed jobs, then wages of female workers in those jobs might be low. These factors do not necessarily contribute to the point scores for these jobs.

If, for the same job-evaluation point score, wages were lower in the predominantly female-performed jobs than in the predominantly male-performed jobs, equal-value legislation would mandate an adjustment. This adjustment would occur even if the predominantly female-performed jobs were held by persons who willingly supplied their services at the lower wage. It is because job evaluators may ignore such supply factors, which might reflect legitimate preferences, that much of the concern arises over the use of administrative, rather than market, procedures for determining pay. Another cause of concern is the administrative cost associated with the job-evaluation procedure itself.

The administrative determination of wages might also inhibit the adaptability of the labour force to change. At present, market forces and collective bargaining raise wages in rapidly expanding sectors and lower wages in declining or slow-growth sectors. These wage differentials are important initiators of economic adjustment, providing the signal and incentive for some members of the labour force to move out of declining employment sectors into expanding sectors. This process, which is significant over the long run, would be inhibited in an economy in which wages were administratively determined. The debate about the viability of equal-value legislation must deal directly with the issue of which wages should be determined by the economic forces of supply and demand, along with collective bargaining, and which should be determined by job-evaluation procedures.

The choices need not be mutually exclusive. That is, the use of equal-value/job-evaluation procedures in select cases may supplement the action of

market forces by providing information to the parties and, perhaps, by removing unintended discrimination. After all, job-evaluation procedures are used extensively in private industry; hence they must have some value in terms of the information they provide and the preservation of such realities as internal equity. Conversely, the broad application of the equal-value principle based on administrative job-evaluation schemes, without any attention to market forces, is likely to create significant allocation problems, as well as to engender market adjustments that may offset, in part at least, the intended effects of the entire process.

Theoretical Effect

Any policy that raises wages relative to those paid for other inputs into production of goods and services will result in an adverse employment effect, both because firms will raise prices and reduce their output in response to a cost increase, and because they will find substitutes for an input that has become more expensive. Where female labour, subject to equal pay, is a cost factor, this adverse employment effect is likely to be fairly substantial, at least in the long term, because there is likely to be a fairly abundant supply of available substitute inputs, and the ratio of female-labour cost relative to total cost can be high in a number of female-dominated labour markets. This effect may be offset, however, by the fact that many of these jobs are in the public and quasi-public sectors, and hence administrators can pass on the cost increase to taxpayers without seriously reducing the demand for the output.

In addition to the direct effect of higher wages on the employment situation, there may also be a number of indirect effects. Opportunities to obtain training and experience in return for lower wages may be reduced, and this consequence may, in the long run, inhibit wage growth. Employers may react by raising job requirements, and working conditions may deteriorate, since higher wages add to production costs. On the credit side, however, recipients of equal pay may welcome the increased requirements and the additional responsibilities, especially if they expand future opportunities for advancement.

Other more subtle adjustments are also likely to occur in response to equal-value legislation. Firms may engage in subcontracting, especially for those functions where they are most susceptible to charges of unequal pay, and where the firms or individuals receiving the contracts are less amenable to legislative initiatives. Certain product lines may be segregated, and certain tasks may be differentiated to some degree, so as not to give the appearance of being substantially similar and thus subject to equal-pay comparisons. In addition, firms may try to avoid hiring applicants whom they regard as ultimately likely to pressure them to introduce equal pay for large groups of workers. They may also avoid making internal evaluations of their own wage structure (especially job evaluations and equal-value comparisons) for fear that the data obtained might be used against them if they did not fully rectify any wage imbalances discovered. These examples are only meant to illustrate some of the adjustments that can occur in response to legislative initiatives relating to employment practices.

Equal-Employment/Opportunity Legislation

While equal-pay policies work to prevent discrimination in matters of pay, equal-employment/opportunity policies are designed to prevent discrimination pertaining to the various dimensions of employment opportunities. Such discriminatory practices might relate, for example, to recruiting, hiring, training, promotions, transfers and termination of employment.

Legislation in Various Jurisdictions

All Canadian jurisdictions have similar equal-employment/ opportunity policies, usually embodied in a Human Rights Code. These policies are part of a broader policy restricting discrimination on the basis of such factors as race, age, religion and national origin. In most jurisdictions, the prohibition against sexual discrimination was added during the 1960s and 1970s, following the International Labour Organisation Discrimination (Employment and Occupation) Convention No. 111, adopted in 1958.

The process of invoking the pertinent legislation usually requires that an individual party complain to a Human Rights Commission. If the Commission decides to act on a complaint, there often follows a lengthy procedure involving investigation, conciliation and, ultimately, a trial-type hearing which may involve appeals to the courts. This lengthy procedure and the requirement that an individual lodge a complaint can obviously inhibit the process that exists to protect Canadians from discrimination.

Affirmative Action

Affirmative action is based on the view that it is not sufficient to make specific acts of discrimination illegal. Rather, positive steps are needed to relieve the effects of past discrimination, eliminate present discrimination and help to prevent future discrimination. These positive steps focus on the results of the intervention, not just on the opportunities themselves.

Affirmative action is a flexible policy which can take many forms. It typically involves setting targets for the hiring of disadvantaged groups, but it can go further and involve quotas and "reverse discrimination". In addition to establishing targets and a timetable for their achievement, affirmative action typically involves the founding of a data base that records such information as the sex, occupational distribution and pay of the work-force.

There are several rationales for affirmative action programs. These programs may compensate for the cumulative effects of a past history of discrimination; in such circumstances, given unequal starting positions, equal opportunity may involve remedial measures, providing specific preferential benefits to a designated group. These time-limited measures might include management training for women and special recruitment programs for underrepresented groups. Affirmative action programs may also be a necessary means of breaking a vicious circle of entrapment which, when broken, will enable women or other groups to acquire experience, training, confidence and responsibilities that will ultimately remove the necessity for

affirmative action. Again, the affirmative action approach to the problems of inequity and inefficient use of target-group workers is based on the concept of systemic discrimination. This approach identifies discrimination in the workplace in terms of the way employment practices affect the employment of target-group members, rather than in terms of the purpose of those practices. It may also be particularly suited to breaking down segregation, since it creates an incentive for firms to reach down into the "job ghettos" and demolish the barriers that confine workers to particular forms of work.

All provinces in Canada, except for Quebec and Newfoundland (and Alberta, unless Cabinet approval is obtained), allow voluntary affirmative action programs and relieve them of being considered in contravention of the relevant anti-discrimination legislation.⁸ Moreover, both the federal jurisdiction and Saskatchewan can impose affirmative action as a remedy when a court has found discrimination; Saskatchewan can even order, on its own initiative, that such programs be instituted. With respect to Native Canadians, compulsory affirmative action through contract compliance has been required in a number of joint public-private mega-projects. Voluntary affirmative action programs, often worked out with the assistance of the government, also exist in a number of large private sector organizations, as well as in various elements of the public sector.

Expected Effect

Equal-employment/opportunity policies can be expected to increase the labour-market demand for females and hence their employment opportunities and, indirectly, their wages. This expectation stands in some contrast to equal-pay policies which, by raising wages, might be expected to decrease employment opportunities. If this prospect of policies that create effective equal-employment opportunities becomes a reality, there could eventually be less need for equal-pay policies. This application of basic economic principles significantly qualifies the notion that equal pay is a necessary complement to equal-employment/ opportunity legislation, a notion which is based on the view that such legislation alone would simply lead to the hiring of females at unequal wages. The notion ignores the demand pressures emanating from equal-employment/opportunity policies, which can serve to increase both wages and employment opportunities. In this area, however, market forces seem to grind with considerable slowness, and social justice would seem to dictate the use of policy instruments to accelerate their working.

Evidence Concerning the Effect of Equal Pay in Canada

It has been determined,⁹ on the basis of data for Ontario, that the transfer in 1969, of equal-pay legislation from the Human Rights Code to the Employment Standards Act—a transfer which was carried out in order to enhance the legislation's effectiveness—had no statistically significant effect of narrowing the male-female/wage gap. It is possible, however, that any change was not recorded, since the data were collected for only one year before and after the passage of the legislation. However, an analysis of

another data set, limited to Ontario occupations, also failed to find any significant difference in the time pattern of male-female/wage adjustments in response to the legislative change. This conclusion has been reinforced by a more recent study¹⁰ of the impact of the legislation, which was carried out over a longer time period (1946–1979), and which used a slightly different set of occupations.

While the extent to which these conclusions should be generalized remains open to question, it seems safe to say that empirical analysis has not shown that conventional equal-pay legislation has significantly narrowed the male-female/earnings gap. This conclusion, of course, does not imply that the legislation has not had an effect on some groups; rather, the indication is that the Acts do not seem to have narrowed appreciably the *overall* male-female/earnings gap.

Evidence Concerning Equal-Value Initiatives

The effect of anti-discrimination legislation on specific groups can be illustrated by a number of equal-value cases that have occurred. A job-evaluation study for the State of Washington¹¹ found, for example, that the pay in predominantly female-staffed occupations was approximately 80 per cent of that in predominantly male-staffed occupations of the same job-evaluation point score. Subsequent analysis suggested that the cost of raising the pay of the predominantly female-performed “undervalued” jobs to the average pay line would be \$37.9 million; a later court decision indicated that approximately 15 500 employees were involved, for an average adjustment of approximately \$2445 per worker.

A job evaluation of municipal workers carried out in San Jose, California, also found that female-performed jobs were paid at rates of 2 to 10 per cent below the comparable-worth line; predominantly male-performed jobs were paid at rates 8 to 15 per cent above comparable worth, creating an overall gap of 10 to 35 per cent of pay rates between jobs of the same point score. The actual settlement to bring the pay of 750 women in “undervalued” female-dominated jobs to the pay line was \$1.4 million, representing an average individual adjustment of \$1867.¹² A job evaluation for Minnesota State employees also led to a budgetary appropriation of approximately \$21.7 million to raise the pay of its 8225 employees in undervalued female-performed jobs. This sum represented an average per-employee adjustment of \$2638.

In Canada’s federal jurisdiction, most equal-value cases have involved only a small number of persons, or have dealt with discriminatory classification systems; alternatively, they could have been handled under conventional equal-pay legislation. In 1980, however, 475 librarians received a settlement that involved an annual ongoing adjustment of approximately \$1 million or \$2105 per person when their jobs were compared to those of predominantly male historical researchers. Again, in 1982, 3300 general service workers received a settlement that involved an annual ongoing adjustment of approximately \$8 million, or an average of \$2424 per person. This represented a 20 per cent increase in the wages of the female-dominated sub-

groups, an increase that was larger than those awarded in most U.S. equal-value adjustments because the Canadian adjustments involved raising the female-pay line to the male-pay line rather than to the average (composite sex) line.

These figures illustrate the size of the adjustments that have been involved in the actual implementation of the principle of equal pay for work of equal value. These adjustments typically involve raising the pay of "undervalued" female-performed jobs by about 10 per cent and typically involve adjustments in the \$2000 to \$3000 range. What difference these changes have made to the overall earnings gap in each of the relevant jurisdictions remains unknown.

Evidence from the United States

The actual effect of various forms of equal-employment/opportunity legislation has been extensively analysed in the United States. This legislation includes both Title VII of the Civil Rights Act of 1964, the Equal Employment Opportunity (EEO) title, and Executive Order 11246 and its amendments; the latter legislation requires affirmative action on the part of employers involved in federal contracts. The EEO legislation forbids both wage and employment discrimination, while the federal contract-compliance legislation requires affirmative action with respect to employment and upgrading opportunities in those firms that receive federal contracts.

U.S. evidence has been mixed on the effect of the equal-employment/opportunity function of Title VII of the Civil Rights Act. Affirmative action under the Federal Contract Compliance Program has produced significant improvements for black males, but there have been frequent set-backs for white females. Recent evidence also suggests that affirmative action has improved the occupational position of Blacks, in part because of more aggressive enforcement procedures and in part because of a wider availability of more highly educated Blacks. Enforcement procedures do seem to be important to the effect of the policy as does an expanding growing economy. Equal-employment/opportunity procedures increased both wages and employment opportunities, while equal-pay procedures reduced the latter.

Conclusions

This overview suggests that there is both a scope and a role for policy initiatives. Equal-employment/opportunity or employment-equity policies have a number of possible advantages over conventional equal-pay policies. The scope of the former is likely to be larger than the scope of the latter, since occupational segregation is more important than narrowly-defined wage discrimination. Equal-employment opportunities can also increase both the wages and the employment opportunities of women, while equal-pay policies, by themselves, are likely to decrease their employment and training opportunities. Employers cannot avoid applying equal-employment/opportunity legislation simply by not hiring particular groups, though this evasion is more often possible under equal-pay legislation. Affirmative action components of equal-employment/opportunity legislation can also break down

work-place barriers and demolish job ghettos, and eventually act to correct misinformation about the capabilities of those groups to whom it applies.

This predisposition towards policies in support of equal-employment opportunities reflects Commissioners' preference for initiatives that expand choices and opportunities, that minimize distortions in market prices, and that facilitate market adjustments and the matching of the right people with the right jobs. Yet although the analysis offered in this section leans towards equal-employment/opportunity policies rather than towards equal-value policies, this Commission does not advocate the abandonment of the latter. We do suggest, however, that the adoption of the principle of equal pay for work of equal value should not be undertaken on a wider scale until Canadians achieve a better understanding of the probable consequences.

Equal-pay/equal-value legislation represents a quantum change in policy orientation because such laws involve administratively determined concepts of value that can be quite independent of market forces; they also involve administrative costs associated with job evaluation. Partly for this reason, its current application has been largely restricted to the public sector, where the impact of market forces is already blunted. To enlarge and extend the concept to the private sector would constitute a dramatic move. Job-evaluation assessments would override not only those wages determined by market forces, but also those determined by collective bargaining. Furthermore, pressure would emerge to apply the concept more broadly: to different groups of workers of the same sex, for example.

Before such a move is made, therefore, it would seem sensible to obtain more information concerning a number of factors, such as the effect of this legislation in those few instances where it has been applied. In addition, it is important that a reasoned debate be held to discuss the pros and cons of administrative, as contrasted with market and collective bargaining, procedures for wage determination. Finally, equal-pay/equal-value policies must be assessed according to a broad set of program-evaluation criteria: the control of administrative costs; the attainment of target efficiency (which requires helping a target group without spilling benefits into the hands of a non-target group); the attainment of allocative efficiency; the provision of non-demeaning benefits; and, over time, the attainment of flexibility.

While equal-pay/equal-value legislation, effectively applied to the private sector, would constitute a significant change in policy, affirmative action is amenable to a staged approach under which its effects could be monitored. In addition, it has the advantage of working through employment-opportunity mechanisms, and the considerable American experience offers Canadians an excellent chance to use its best features and abandon its worst. Furthermore, there are good reasons to believe that affirmative action would be needed only temporarily.

Recommendations

Commissioners generally approve the approach suggested by the Royal Commission on Equality in Employment, and we note the supportive

approach taken by the federal government in its response to the Abella recommendations. In general this approach will require:

- Maintenance of existing equal-pay/equal-value policies
- Legislation that requires all employers covered by the Canada Labour Code, including federal Crown corporations, to take affirmative action
- Contract-compliance requirements for contractors working for the federal government
- Encouragement of provincial governments to follow suit.

We are concerned, however, that, as often before, governmental actions will turn out to be "toothless". In order to ensure compliance, these approaches should be firmly legislated rather than merely set out in guidelines. Moreover, the Human Rights Commission should be given more resources so that it can strengthen its monitoring and enforcement activities.

Notes

1. A more detailed discussion of the empirical evidence is provided in Morley Gunderson, "Discrimination, Equal Pay and Equal Opportunities in the Labour Market", in *Work and Pay: The Canadian Labour Market*, vol. 17, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985), on which much of this section is based.
2. For example, Sylvia Ostry, *The Female Worker in Canada* (Ottawa: Queen's Printer, 1968); Roberta Robb, "Earnings Differentials Between Males and Females in Ontario, 1971", *Canadian Journal of Economics* 11 (May 1978): 350-59; Morley Gunderson, "Decomposition of Male/Female Earnings Differential: Canada 1970", *Canadian Journal of Economics* 12 (August 1979): 479-85; Morley Gunderson, *Labour Market Economics: Theory, Evidence and Policy in Canada* (Toronto: McGraw-Hill Ryerson, 1980); M. Stelcner and D. Shapiro, "The Decomposition of the Male/Female Earnings Differential: Quebec 1970" (Montreal: Concordia University, 1980); C. Kapsalis, "Sex Discrimination in the Labour Market" (mimeo, 1980).
3. For example, Reginald Robson and Mireille Lapointe, *A Comparison of Men's and Women's Salaries and Employment Fringe Benefits in the Academic Profession* (Ottawa: Information Canada, 1971); Morley Gunderson, "Male-Female Wage Differentials and the Impact of Equal Pay Legislation", *Review of Economics and Statistics* 57 (November 1975): 426-69; William Schrank, "Sex Discrimination in Faculty Salaries: A Case Study", *Canadian Journal of Economics* 10 (August 1977): 411-33; M. Stelcner, "Male-Female Faculty Salary Differentials: A Case Study—Concordia University" (Montreal: Concordia University, 1979); P. Walmsley, M. Ohtsu, and A. Verma, "Measuring Wage Discrimination Against Women: An Alternative to the Human Capital Approach" (Saskatoon: University of Saskatchewan, 1980).
4. M. Gunderson, *The Male-Female Earnings Gap in Ontario: A Summary* (Toronto: Ministry of Labour, Research Branch, 1982).
5. Jac-André Boulet and Laval Lavallée, *The Changing Economic Status of Women*, study prepared for the Economic Council of Canada (Ottawa: Minister of Supply and Services Canada, 1984).
6. See Alice Nakamura and Masao Nakamura, "A Survey of Research on the Work Behaviour of Canadian Women", in *Work and Pay: The Canadian Labour Market*, vol. 17, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).

7. Boulet and Lavallée, *The Changing Economic Status of Women*, p. 3.
8. H. Jain, "Human Rights: Issues in Employment", in *Human Resources Management in Canada*, edited by N. Agarwal et al. (Toronto: Prentice-Hall, 1983).
9. Morley Gunderson, "Male-Female Wage Differentials and the Impact of Equal Pay Legislation", *Review of Economics and Statistics* 57 (November 1975): 426–69.
10. M. Gunderson, "Spline Function Estimates of the Impact of Equal Pay Legislation" (mimeo, 1984).
11. Norman D. Willis and Associates, *State of Washington, Comparable Worth Study* (1974), and *Comparable Worth Study, Phase II* (1976).
12. John H. Bunzel, "To Each According to Her Worth?", *The Public Interest* 67 (Spring, 1982), pp. 77–79.

Time Spent Working

This Commission has stressed the importance of the growth in employment and real earnings as factors contributing to the increased well-being of Canadians. Another key factor is the reduction in time spent working and the increased time thus made available for leisure and other activities. In this century the reduction in Canadians' working time has been dramatic. It has occurred on three fronts: hours worked per week, weeks worked per year, and years worked over a lifetime. A shorter work-week, more holidays, and later entry into, and earlier retirement from, the labour force have produced significant increases in the time available for non-work activities.

There are two sets of issues relating to time spent working. The first involves working time when the economy is operating at normal levels of employment. Here Commissioners' central concern is that working time reflect, as closely as reasonably possible, the preferences of employees. The second issue involves the way hours of work and employment adjust in response to cyclical fluctuations in the economy. This matter was raised earlier when we dealt with unemployment insurance, and we return to it below.

Weekly and Annual Work Schedules: Current Patterns and Historical Trends

Patterns in weekly hours of work can be examined in terms of actual hours of work, paid hours or standard hours. Actual hours of work in any given week are affected by factors such as the proportion of part-time and full-time employees, the structure of industry, the proportion of office and non-office employees, cyclical fluctuations in labour demand, industrial disputes and the occurrence of holidays and vacations. Paid hours, defined as the total number of hours for which employees are receiving pay, including holidays, vacations and paid sick leave, respond to all these factors, except the occurrence of paid holidays and vacations. Standard hours, defined as the number of hours beyond which overtime is normally payable to full-time employees, are affected, among the factors listed above, only by the industrial mix and the proportion of office and non-office workers.

There is considerable diversity in actual hours worked per week by Canadian employees. Data from Statistics Canada's Labour Force Survey, presented in Table 15-9, indicate that during 1983, just over half of all employees worked "typical" work-weeks of between 30 and 40 hours. Nearly one-fifth of all employees were part-time workers, defined by the Labour Force Survey as employees who usually work less than 30 hours per week. Even during that year of severe recession, however, when Canada's unemployment rate averaged 11.9 per cent, over 20 per cent of employees worked more than 40 hours per week; 12.6 per cent worked more than 50 hours per week.

Some of the employees who work the long hours recorded in Table 15-9 hold more than one job. However, since policies relating to work time apply to the job rather than to the employee, it is useful to examine hours worked on

TABLE 15-9 The Distribution of Employed Persons by Hours Worked at All Jobs, Canada, 1983

Hours	Both Sexes		Male		Female	
	000s	%	000s	%	000s	%
0	797	7.4	442	7.1	355	7.9
1-29	1 982	18.5	680	10.9	1 302	29.0
30-34	1 038	9.7	541	8.7	497	11.1
35-39	1 656	15.4	720	11.5	937	20.8
40	2 932	27.3	2 021	32.4	912	20.3
41-49	973	9.1	720	11.5	253	5.6
50 or over	1 356	12.6	1 116	17.9	240	5.3
Total	10 734	100.0	6 240	100.0	4 495	100.0

Sources: Statistics Canada, *Labour Force Annual Averages 1975-1983*, Cat. No. 71-529 (Ottawa: Minister of Supply and Services Canada, 1984), p. 269; and tabulations by the Commission.

the main job. Table 15-10 shows that in any case, hours worked at part-time jobs add little, overall, to the average of hours worked at all jobs. It also records that full-time employees usually work 41.5 hours per week on their main job.

For most purposes, however, the most relevant concept is the length of the standard work-week (and work-year) for full-time employees. Table 15-11

TABLE 15-10 Average Weekly Hours Worked, Canada, 1983

Employee Category	Actual Hours	Usual Hours
All jobs		
All employees	37.3	37.8
Full-time employees	41.3	42.0
Part-time employees	15.3	14.9
Main job		
All employees	36.8	37.3
Full-time employees	40.8	41.5
Part-time employees	15.1	14.7

Source: Statistics Canada, *Labour Force Annual Averages 1975-83*, Cat. No. 71-529 (Ottawa: Minister of Supply and Services Canada, 1984), pp. 287, 296.

Note: Averages are calculated excluding persons who were employed, but not at work, during the reference week.

reports the distribution of standard hours for office and non-office employees, according to the most recently published data from Labour Canada's annual survey of wages and working conditions in establishments of 20 or more employees. The most common standard work-week in all industries is 40 hours for non-office personnel and 37.5 hours for office workers. The average work-week for employees in all industries is 39.5 hours for non-office employees and 36.7 hours for office personnel; the overall average stands at 38.2 hours worked per week.

**TABLE 15-11 Standard Weekly Hours, Canada, 1982:
Manufacturing and All Industries**

Hours per Week	All Industries %	Manufacturing %
Office employees		
Fewer than 35 hours	3	2
35 hours	29	21
Between 35 and 37.5 hours	15	11
37.5 hours	43	39
More than 37.5 hours	10	27
Average for office employees	36.7 hrs.	37.4 hrs.
Non-office employees		
Fewer than 37.5 hours	6	5
37.5 hours	10	3
Between 37.5 and 40 hours	7	2
40 hours	68	82
More than 40 hours	6	7
Average for non-office employees	39.5 hrs.	39.8 hrs.
Office and non-office employees		
Average	38.2 hrs.	39.2 hrs.

Sources: Canada, Labour Canada, *Working Conditions in Canadian Industry 1982* (Ottawa: Minister of Supply and Services Canada, 1983), pp. 4, 6; and tabulations by the Commission.

Note: Averages are calculated using the method specified in Chan F. Aw, "Standard Hours of Work: Trends, Determinants and Implications" (Ottawa: Labour Canada, Economics and Industrial Relations Research Branch, 1982).

Data available for standard hours in manufacturing cover a much longer period than data for the economy as a whole. Table 15-12 records data pertaining to standard weekly hours in manufacturing, for intermittent years from 1870 to 1946, and annually, for the years from 1949 to 1982; figures for the latter period are based on Labour Canada's survey of working conditions.

The evidence shows that the standard work-week diminished fairly steadily over most of the current century, but the reduction became very gradual during the 1960s and 1970s. Relatively sharp declines in the standard work-week were observed immediately after both the First World War and the Second World War. It has been suggested that during those periods, the fear of a substantial rise in unemployment, as a result of soldiers returning from active service, generated increased pressure to reduce the work-week.¹ Another possibility is that the long gradual reduction of the work-week was halted by the need to maintain output during the two wars, but that the process resumed its normal course after each one.

TABLE 15-12 Standard Weekly Hours in Canadian Manufacturing, Selected Years, 1870 to 1982

Year	Hours	Year	Hours
1870	64.0	1962	40.4
1901	58.6	1963	40.3
1911	56.5	1964	40.2
1921	50.3	1965	40.2
1926	50.2	1966	40.2
1931	49.6	1967	40.0
1936	49.2	1968	39.9
1941	49.0	1969	39.9
1946	48.7	1970	39.8
1949	43.5	1971	39.8
1950	43.2	1972	39.7
1951	42.6	1973	39.6
1952	42.3	1974	39.5
1953	42.0	1975	39.4
1954	41.5	1976	39.4
1955	41.3	1977	39.3
1956	41.1	1978	39.3
1957	40.0	1979	39.3
1958	40.7	1980	39.2
1959	40.6	1981	39.2
1960	40.6	1982	39.2
1961	40.4		

- Sources:* 1870 Calculations by O.J. Firestone, cited in S. Ostry and M. Zaidi, *Labour Economics in Canada*, 3d ed. (Toronto: Macmillan, 1979), p. 80.
- 1901-46 Calculations by G. Saunders and S.M.A. Hameed using unpublished Labour Canada data, reported in Ostry and Zaidi, *Labour Economics in Canada*, p. 80.
- 1949-79 Calculations by Chan F. Aw, "Standard Hours of Work: Trends, Determinants and Implications" (Ottawa: Labour Canada, Economics and Industrial Relations Research Branch, 1982) for Labour Canada, using *Working Conditions in Canadian Industry*.
- 1980-82 Calculations by the Commission using Labour Canada's *Working Conditions in Canadian Industry*.

Data relating to standard hours for industries other than manufacturing and for the all-industry composite are available only for the years from 1963 on. Tabulations for the period from 1963 to 1979 show that the reduction rate of standard hours did not level out in all industries during the 1960s and 1970s.² Between 1963 and 1979, the standard work-week for the manufacturing sector decreased by one hour; there was a similar or smaller reduction of working time in transportation and communication, trade and finance. The standard work-week decreased, over this same period, by more than two hours in forestry and mining, and by five hours in service employment. The average reduction in weekly hours for all industries was 1.8 hours. Empirical analyses of the Canadian post-war data on weekly work-hours suggest that one of the most important factors in the long-term reduction is the rise in the real-wage rate over time.³

Gradual decreases in the standard work-week have been accompanied by decreases in the work-year, resulting from more holidays and longer annual vacations. Table 15-13 indicates that over the 30-year period from 1949 to 1979, holidays in the manufacturing sector have increased from 6.9 days per year to 11.1 days per year, and annual vacations have extended from 2.3 weeks per year to 3.6 weeks per year. Taking account of the increase in holidays and vacations, the manufacturing sector's net standard work-week, that is, the (gross) standard work-week minus the average hours per week deducted for holidays and vacations, dropped from 40.4 hours to 34.9 hours, between 1949 and 1979. For all industries, it dropped from 36.7 hours to 34.0 hours, between 1964 and 1979. These declines are close to the trend in process over the last century, representing a decrease in the work-week of about two hours per decade.

Determinants of Working Time

In non-union environments, work schedules, like wages and other working conditions, officially appear to be set unilaterally by the employer. Employers have an economic incentive, however, to take account of the work preferences of their employees, and as a result, work schedules are actually determined by interaction that involves both employers' and employees' preferences. An employee's preference for the number of hours of work in each time period will depend on demographic factors such as the individual's age, health and number of dependents; environmental factors such as the temperature and cleanliness of the work site; the physical nature of the work; and monetary factors such as the wage rate and the individual's other sources of income.

A change in the real wage has offsetting effects on preferred working time. On the one hand, an increase in the real wage makes work more attractive relative to leisure, and this change influences the employee's preference to work more hours. On the other hand, the larger income associated with an increase in real wages makes employees better off and usually induces them to "consume more leisure", that is, to work less. Empirical evidence suggests that for most workers, the latter effect tends to dominate: this means that

**TABLE 15-13 Trends in Holiday and Vacation Time, Canada,
Selected Years, 1949-1979**

Year	Manufacturing				All Industries	
	Gross Standard Hours	Holidays in Days per Year	Vacation in Weeks per Year	Net Standard Hours	Gross Standard Hours	Net Standard Hours
1949	43.5	6.9	2.3	40.4	—	—
1954	41.5	7.4	2.4	38.4	—	—
1959	40.6	7.8	2.7	37.3	—	—
1964	40.2	8.0	2.8	36.8	40.1	36.7
1969	39.9	8.8	3.1	36.2	39.5	35.8
1974	39.5	10.1	3.4	35.4	38.8	34.8
1979	39.3	11.1	3.6	34.9	38.3	34.0

Source: Chan F. Aw, "Standard Hours of Work: Trends, Determinants and Implications" (Ottawa: Labour Canada, Economics and Industrial Relations Research Branch, 1982), pp. 16, 64.

increased real-wage rates generally reduce the number of hours a person wishes to work. Indeed, over extended periods, the main source of reductions in working time has been increased real wages.

An employer's need for interaction among employees may require that working hours be standardized to some degree; each employee, therefore, cannot simply be allowed to work his or her preferred number of hours each week. Other considerations being equal, however, the firm has an incentive to offer its staff a work schedule which corresponds as closely as possible to the typical employee's preferred hours of work each week. The greater the divergence of actual hours and preferred hours, the greater the tendency for employees to leave the firm to obtain their preferred hours elsewhere, and the higher the wage the employer must pay to attract and retain the desired work-force.

The employer must also consider certain person-specific costs of employment. Costs such as those for dental insurance premiums, which are set at a fixed amount per employee, belong in this category as do the costs of hiring and training employees, amortized over some expected term of employment at the firm. An employer must pay certain person-specific employment-related costs for each staff member. This requirement creates an incentive for the employer to keep the staff as small as possible and thus keep the firm's person-specific costs to a minimum. This incentive might well induce an employer to increase the number of hours of work per employee beyond the work-time preferred by employees. Longer hours, however, may reduce job satisfaction, increase employee fatigue, and necessitate payment of premium-wage rates for hours worked beyond some standard level set by legislation or

collective agreement. The wise employer, then, will choose a work schedule which minimizes costs, based on the net effect of these various factors.

Barriers to Work-Time Reduction

Because work schedules reflect the wishes of both the employer and the employee, they may not be ideal from the perspective of either party. This Commission's view is that work schedules should reflect the preferences of employees as far as this is reasonable and possible, given the requirements to achieve output. Thus any factors, other than those related to production requirements, which may cause employers to prefer more working time than their employees desire, should be examined. Several instances of such barriers have occurred as a result of employment-standards and labour-relations legislation, which has generally been written with full-time employees in mind.

One problem is caused by the ceilings on payroll taxes. Workers' Compensation legislation in all jurisdictions and legislation relating to the Canada (or Quebec) Pension Plan, which covers all employees, requires employers to contribute a specified percentage of each employee's annual earnings, up to a ceiling level per employee. For Unemployment Insurance (UI), employers are required to pay UI premiums on earnings up to a weekly ceiling level per employee. (In 1985, this ceiling represented 3.29 per cent of earnings, up to a maximum insurable-earnings level of \$460 per week for each employee.⁴) The purpose of the ceilings is to prevent benefits, which are also proportional to earnings up to the ceiling, from reaching an inappropriately high level for high-income earners.

An unintended effect of the ceilings, however, is to create a person-specific cost for individuals earning above the ceiling. If work hours are reduced and additional employees are hired, the proportion of earnings subject to contribution will rise. The annual ceilings on CPP and Workers' Compensation thus create a barrier against those working less than a full year; the weekly ceiling on UI creates a barrier against those working less than a full week. Simulations indicate that, as a result of the ceilings on these statutory benefits, the replacement of one full-time worker by two half-time employees would increase labour costs by up to 2.5 per cent, depending on the initial earnings level.⁵ The effect is directly related to the proportionate reduction in hours.

It would be desirable to eliminate these artificial barriers, since employer bias towards longer hours and fewer employees results in work schedules which do not entirely reflect employee preferences; in addition, this bias reduces opportunities for Canadians seeking work. Simply to eliminate the ceilings on contributions is inappropriate, however, since the ceilings have a social purpose. A better solution would be to base premiums for Unemployment Insurance, Workers' Compensation and Canada Pension Plan on *hourly* earnings, with a ceiling to limit the amount subject to contribution. This action would eliminate the bias against those working fewer hours, while maintaining the function of the ceilings. Of course, it might be necessary to

retain the weekly or annual earnings basis for premiums when it was impractical to measure weekly hours of work. This would not be a serious drawback, however, because policies to reduce weekly hours of work would also prove impractical in such situations.

Employment-standards legislation typically requires employees to have worked for a minimum continuous period to establish their eligibility for benefits such as paid public holidays and the right to receive notice of termination of employment. The Canada Labour Code, for example, entitles an employee to nine paid holidays a year, provided that he or she has been employed for at least 30 days and has worked at least 15 of the 30 calendar days preceding the holiday. This provision would disqualify an employee who worked only three days a week, although it would not affect one who worked only four hours a day. The bias against some categories of reduced hours could be eliminated, while the purpose of the requirement for continued employment could be retained. This might be done, for example, by specifying that an employee must have worked at least 60 per cent of his or her normally scheduled hours in the preceding 30 days.

Another bias stems from the administrative practice of some Labour Relations Boards of specifying separate bargaining units for part-time employees. The Ontario Labour Relations Board, for example, excludes from a bargaining unit for full-time workers any employees who work fewer than 24 hours a week. Groups of part-time employees are entitled to certification as separate bargaining units. One possible effect of segregating part-time employees is that a full-time employee who opts to reduce his or her weekly work to 20 hours may no longer be covered by the wages and benefits provided in the collective agreement.

The Ontario Labour Relations Board has expressed a view that full-time and part-time employees do not share enough interests to make it practical for them to be included in the same bargaining unit. The recent Commission of Inquiry into Part-time Work, however, found that the practice of segregating part-time employees contributed to inequitable wages and working conditions for that group. That Commission therefore recommended that Labour Relations Boards include all part-time employees, both regular and casual, in the same bargaining unit as full-time employees.⁶ To adopt this recommendation would help to eliminate any bias there might be against reduced work time in the Canadian economy.

Privately negotiated fringe benefits can also create an unintended bias against reduced working time. Table 15-14 shows expenditures on fringe benefits in Canada during 1978, the most recent year for which published data are available for Statistics Canada's occasional survey of compensation costs. The table indicates that fringe benefits add almost 33 per cent to workers' straight-time pay. Although many of these benefits are proportional to hours worked, some, such as medical, dental and life insurance, represent person-specific costs which might make employers prefer to schedule longer hours of work for their employees. If employer contributions to these plans were pro-rated according to the number of hours worked, the plans would no longer represent a barrier. Since such a change would not significantly

increase administrative costs, Canadian governments should encourage such pro-rating through collective bargaining, personnel policies or legislation.

**TABLE 15-14 Fringe Benefit Expenditures per Employee, Canada, 1978,
(Statistics Canada data)**

Item	Average Annual Expendi- ture per Employee	Percent- age of Total Employee Compensation	Percent- age of Basic Pay for Regular Work
Basic pay for regular work	12 301	74.6	100.00
Commissions, incentive bonuses	263	1.6	2.14
Overtime, including premium pay	522	3.2	4.24
Shift-work premium pay	46	0.3	0.37
Other premium pay	53	0.3	0.43
Total pay for time worked	13 185	80.0	107.18
Paid absence			
Paid holidays	586	3.6	4.76
Vacation pay	794	4.8	6.46
Sick leave pay	170	1.0	1.38
Personal or other pay	27	0.2	0.22
Total paid absence	1 577	9.6	12.82
Miscellaneous direct payments			
Floating COLA	61	0.4	0.49
Bonuses (Christmas, etc.)	51	0.3	0.42
Severance pay	30	0.2	0.24
Taxable Benefits			
Provincial medicare	82	0.5	0.67
Other benefits	57	0.4	0.46
Other payments	28	0.2	0.23
Total miscellaneous direct payments	310	1.9	2.52
Gross payroll (total direct payments)	15 071	91.4	122.51
Employer contributions to employee welfare and benefit plans			
Workmen's Compensation	186	1.1	1.51
Unemployment Insurance	209	1.3	1.70
Canada/Quebec Pension Plan	161	1.0	1.31
Private pension plans	558	3.4	4.53
Quebec Health Insurance Board	59	0.4	0.48
Private life and health plans	203	1.2	1.65
Other benefit plans	33	0.2	0.27
Total	1 410	8.6	11.46
Total Employee Compensation	16 481	100.0	133.97

Source: Statistics Canada, *Employee Compensation in Canada, All Industries, 1978*, Cat. No. 72-619 (Ottawa: Minister of Supply and Services Canada, 1980), pp. 16-19.

In this section Commissioners have identified a number of labour-market policies and privately negotiated arrangements which result in work schedules that do not fully reflect employee preferences. It makes sense to change these policies and arrangements even when the economy supports full employment. In times of above-normal unemployment, these changes might prevent a situation in which some Canadians are working longer hours than they wish, while others are not working at all.

A related issue is the way employment and hours of work respond to cyclical fluctuations in the economy. The choice between lay-offs and reduced hours (or, if both are used, the proportion of each) depends on a variety of factors that reflect employer and employee preferences. In general, employees and employers can assess these costs and benefits and make the appropriate choices, and there is little need for public policy involvement. However, existing policies may unintentionally bias the choice. Thus it is important to examine policies for potential biases.

The existing Unemployment Insurance system represents an important obstacle to reduced hours because it provides benefits to individuals out of work for a full week, but not to individuals whose income falls because of reduced working hours. This arrangement makes employers and employees more likely to prefer lay-offs to reduced hours of work as a means of responding to temporary reductions in labour demand. Such an unintended bias toward lay-offs can be eliminated by changing either UI financing or benefit provisions. As noted earlier concerning the UI system, experience rating of the financing of unemployment insurance would have several advantages; one of these would be that it offsets the tendency to choose lay-offs by making them costly to the firm. The alternative is a short-term/compensation program which operates on the benefits side.

A short-term/compensation program was introduced in Canada in January 1982. Essentially, the program involves redistributing the UI benefits that would have been paid to laid-off workers. Thus persons whose hours of work are reduced receive some additional income in the form of UI benefits. The combination of an increase in leisure time and a relatively small reduction of income makes the program attractive to most employees. Employers face somewhat higher costs than they would face with lay-offs; the additional costs take the form of fringe benefits and administrative expenses associated with the program. However, benefits, too, accrue to employers: reduced costs associated with lay-off and recall; less reduction in employee productivity because of loss of work experience; and less possibility of loss of experienced employees who do not return on recall. Experience with the program suggests that these costs and benefits roughly offset one another.⁷

UI expenditures have been considerably higher – by a factor of 1.35 – under the program compared to those of conventional unemployment insurance. The two main reasons were the waiving of the normal two-week waiting period, a device to make the program more attractive to senior employees whose risk of lay-off was low, and the provision that the program was not to reduce eligibility for conventional UI. As a result of the second provision, about half the employees originally designated for lay-off were laid off after the short-

term/compensation agreement was terminated, thus raising the overall costs of the program.

Because of the higher cost of the short-term/compensation program, in the form both of additional UI expenditures and of extra administrative costs, this Commission prefers to operate on the financing side to offset any tendency toward lay-offs made possible by the design of the Unemployment Insurance system. Experience rating brings several other important benefits, as well. Until implementation of experience rating is complete, however, it will be useful to retain the short-term/compensation program, although it might possibly be modified to some extent in order to reduce the unemployment-insurance costs and administrative complexity.

Notes

1. Lise Poulin-Simon, "Le loisir industriel, variable d'ajustement économique aux crises de l'emploi", *Loisir et Société* 6 (1983): 187-207.
2. Chan F. Aw, "Standard Hours of Work: Trends, Determinants and Implications" (Ottawa: Labour Canada, Economics and Industrial Relations Research Branch, 1982), p. 64.
3. S.M.A. Hameed, "Economic and Institutional Determinants of the Average Work Week in Canada", in *Work and Leisure in Canada*, edited by S.M.A. Hameed and D. Cullen (Edmonton: University of Alberta, Faculty of Business Administration and Commerce, 1975), pp. 1-18; Keith Newton and Norm Leckie, "Determinants of Weekly Work Hours in Canada", *Industrial Relations* 34 (1979): 257-71; and Aw, "Standard Hours of Work".
4. Canada, Employment and Immigration Canada, *Benefit Rate and Duration* (Ottawa: The Department, 1984).
5. N. Meltz, G. Swartz, and F. Reid, *Sharing the Work: An Analysis of the Issues in Worksharing and Jobsharing* (Toronto: University of Toronto Press, 1981).
6. Canada, Commission of Inquiry into Part-time Work, *Part-time Work in Canada: Report of the Commission of Inquiry into Part-time Work* (Ottawa: Labour Canada, 1983), p. 31.
7. For a more detailed discussion, see the Commission study by Frank Reid, "Reductions in Work Time: An Assessment of Employment Sharing to Reduce Unemployment", in *Work and Pay: The Canadian Labour Market*, vol. 17 (Toronto: University of Toronto Press, 1985).

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Immigration Policy

Introduction

Over the years, Canada's immigration policies have done much to shape the nature of modern Canadian society: its cultural texture and ethnic composition, and the ever-expanding stock of its traditions, aspirations and potential antagonisms. Today, with increasing population pressures around the globe, these policies are becoming even more important. To determine how they should be shaped, we must find answers to a number of questions: How open a society do we wish to be? How large a flow of new migrants can we absorb? How do our immigration policies fit within a principal-power role? What is the function of immigration in adjusting our economy to the competitive pressures of the late twentieth century?

In recent years, the Canadian government's long-standing post-Second World War policy on immigration has changed. The 1966 White Paper on Immigration took the position that "Immigration has made a major contribution to the national objectives of maintaining a high rate of population and economic growth."¹ Just eight years later, the government's Green Paper took a much different stance. It stated that "to many Canadians, living in a modern industrialized and increasingly urbanized society, the benefits of high rates of population growth appear dubious on several grounds."² More recently, and especially since 1982, Canadian immigration policy has become more restrictive.

Since the Second World War, Canadian immigration policies have also altered the predominately Western European character of most of Canada's provinces and large cities. Today, Canadians are no longer a people of only two languages and cultures; instead, we are increasingly multi-racial and multi-cultural. Reforms in immigration policies in 1962 eliminated all references to racial and ethnic characteristics as criteria for admission of new permanent residents, and policy makers evolved an objective "points" system

to ensure even-handed consideration of all applicants. Similar changes in the admission criteria applicable to stateless or displaced persons have enabled refugees from outside Western Europe to apply for, and gain, entry to Canada during the post-war period. It seems likely that in future years, a substantial proportion of newcomers will be attracted from non-European nations, and these new Canadians will continue to expand the diversification of our cultural and ethnic mix. These important changes in Canada's racial and ethnic composition will continue to transform our economic and political life in the coming decades. They are also likely to generate a certain amount of social conflict, and future generations of Canadians will need to invent new policies and techniques for coping with the stresses of a vibrant and dynamic multi-cultural society.

Notes

1. Canada, Minister of Manpower and Immigration, *White Paper on Immigration* (Ottawa: Queen's Printer, 1966), p. 7.
2. Canada, Department of Manpower and Immigration, *Immigration Policy Perspectives*, a report of the Canadian Immigration and Population Study (Ottawa: Information Canada, 1974), p. 5.

Canada's Present Immigration Policy

Canada's immigration policy is currently conducted under the legislative authority of the 1978 Immigration Act. The federal and provincial governments share jurisdiction over immigration, although provincial legislation has effect only insofar as it does not conflict with federal legislation. The two levels of government consult each year in the process of determining planned immigration levels, since immigration has wide-ranging consequences for several areas of provincial interest: housing, health care, education, regional labour markets and social services.

Current legislation specifies three classes of immigrants: family class, convention refugees and designated classes, and economic (or independent) classes. Data on numbers admitted under each of these classes are detailed in Table 16-1. Family-class immigration is intended to reunite families; immigrants in this category are not assessed according to their suitability for the Canadian labour market. The relative importance of family-class immigration has increased in recent years.

The refugee class is identified on the basis of the United Nations Convention and Protocol relating to the Status of Refugees, but other "designated classes" are authorized under the Canadian Act in times of crisis.

TABLE 16-1 Immigration by Class, 1966–1983

Year	Family Class (%)	Assisted Relatives (%)	Independent (%)	Refugees and Designated Class (%)	Total Number of Immigrants
1966	34.2	—	65.8	—	194 743
1970	21.8	23.8	54.4	—	147 713
1971	27.4	24.1	48.5	—	121 900
1972	27.1	25.2	43.5	4.2	122 006
1973	22.6	24.0	52.1	1.3	184 200
1974	24.8	24.3	50.1	0.8	218 465
1975	34.1	24.3	38.6	3.0	187 881
1976	40.7	21.8	29.6	7.9	149 429
1977	44.7	22.7	26.2	6.4	114 914
1978	52.8	19.9	22.4	4.9	86 313
1979	41.7	10.2	23.2	24.9	112 096
1980	35.7	9.4	26.7	28.2	143 117
1982	41.3	37.7		14.0	121 147
1983	54.6	29.7		15.7	89 157

Sources: Canada, Employment and Immigration Canada, *Annual Report To Parliament on Immigration Levels* (Ottawa: The Department, 1981), Table 11, p. 42; *Background Paper on Future Immigration Levels* (Ottawa: Minister of Supply and Services Canada, 1984), p. 4, and *Immigration Levels, 1985–1987: Analytical Considerations* (Ottawa: The Department, 1984), p. 9.

As is indicated in Table 16-1, the number of immigrants admitted under this category fluctuates from year to year. Recently, the number of refugees has been relatively large because Canada has accepted significant numbers of people in this category from South-East Asia. In fact, Canada has one of the world's biggest refugee-resettlement programs, relative to the size of its population. This is a commendable record, and one which our country should strive to maintain.

The final group of immigrants consists of those in the "economic" or "independent" class. These include "selected" workers (selected, that is, according to job-market criteria), entrepreneurs, the self-employed, and assisted relatives of Canadian citizens. Prospective immigrants in this class become eligible for admission by way of a points system. Points are awarded, for example, according to levels of education and training, occupational demand and arranged employment, work experience, area of destination within Canada, relatives within Canada, knowledge of our official languages, and personal characteristics. The number of points necessary for admission varies, depending on the applicant's category: entrepreneur, self-employed, retired, assisted relative, or independent. As of May 1982, except for entrepreneurs and self-employed persons, only those applicants with pre-arranged employment approved in advance by a Canada Employment Centre are eligible for entry. This requirement has resulted in a sharp decrease in the numbers of applicants admitted under this category, compared to earlier years. It is in this sense that our immigration policy has lately become more restrictive.

Designing Our Immigration Policy

Canada's immigration policy has several goals, some of which conflict and require trade-offs. Demographic objectives involve our federal government in choices concerning the size, rate of growth, and age structure of the Canadian population. Social or humanitarian objectives focus on family reunification and the admission of refugees. Economic objectives are general, fostering the development of a strong and viable economy and the prosperity of all regions of Canada.

Our immigration policy has long been tied to the concept of "absorptive capacity" which, in turn, has become more closely linked to labour-market conditions. Before May 1982, labour-market analyses and forecasts, based on unemployment and vacancy rates, were used to estimate demand in almost 500 occupational categories. Occupational rating determined the number of points assigned to a given occupation in processing the application of a prospective immigrant. This procedure, however, was not entirely satisfactory. Subjective judgement played a significant part in determining individual ratings, and although, ideally, the method of selecting immigrants should have been forward looking, it relied, in fact, on data showing the past state of our labour market. Moreover, if an occupational category was opened during any given period, there was no way to control the numbers of immigrants who could enter by way of that opening.

Recent research has shown that workers admitted to specific employment suffer the same unemployment rate as other immigrants.¹ Thus, while attempts are currently being made to develop a better forecasting system for job vacancies, the present immigrant-unemployment statistics raise the fundamental issue of whether this class of immigrants should be targeted to specific jobs at all, or whether greater flexibility in the matter of job selection is a preferable basis of choice. Relatively young, well-qualified and well-educated applicants could be better suited to exercise this greater flexibility than applicants preferred because of more specific occupational qualifications.

Canadians gain when persons with valuable training and education immigrate to Canada. Over the post-war period, the education and skills levels of immigrants have enriched our society and improved the performance of our economy. The result, however, is that while we may save on the expense of providing education and skill-development opportunities for recent immigrants, other countries lose some of the benefits of their investment in their citizens' education. The fact that an increasing proportion of Canada's immigrants are coming from developing countries adds further weight to this Commission's belief that Canada should improve our foreign-aid and development-assistance record.

While Canada gains by following an occupationally selective system of immigration, this course runs the risk of making us more dependent on immigration for certain types of skilled workers. Canadians may find that particular occupations become difficult to enter, for training and apprenticeship programs may become scarce if employers can rely on pre-trained immigrants. To prevent "bottlenecks" in the supply of specific skills, it is certainly useful for Canada to have the option of allowing skilled workers to enter our country when an equivalent domestic group cannot be developed quickly. The same result can often be achieved just as effectively, however, through short-term methods such as employment visas or authorizations. Indeed, the existing employment-visa system is now quite extensive: it provided an estimated 47 000 person-years of labour to our economy in 1983. This is a considerable number when one considers that net immigration in 1982-83 totalled only 61 000 persons, not all of whom would join the labour force. Whatever system is adopted, employers, labour and government must co-operate very closely in identifying Canada's specific needs and openings for particular skills.

Note

1. Canada, Employment and Immigration Canada, "Seminar on Immigration Levels for 1985-1987" (Ottawa: The Department, 1984), p. 7.

Setting the Level of Immigration

Currently, the numbers of immigrants in each category are planned separately. The refugee category is planned only one year ahead, because of the volatility of the refugee situation; the other categories are planned on a three-year horizon, subject to an annual review. The Act requires the minister to report to Parliament on the way in which demographic considerations have been taken into account in determining planned immigration levels. The current projection is that given an unchanged fertility rate and a net immigration of approximately 50 000 persons per year, Canada's population will reach 27 to 28 million people by the end of this century.¹ About 2020, however, if present fertility and net immigration rates continue, our population will peak at about 29 million and then begin a slow decline. As yet, there has been little public debate about the implications of a diminishing population, but in the decades ahead, this trend will become an important issue for Canadians to ponder. For a fuller review of demographic trends, a variety of forecasts are included in Chapter 7.

If one takes a very long-term view and considers the levels at which our population will eventually stabilize, provided that present assumptions about fertility and net immigration prove true, then our current fertility rate and our net immigration flow of about 50 000 persons per year would leave Canada, after about 200 years, with a stationary population slightly above 10 million. To maintain our current population level of about 25 million people with our current fertility rate, net immigration would have to more than double to about roughly 125 000 persons per year. This projection gives some indication of the importance of immigration levels in determining the size of Canada's population in the long term. Of course, the fertility rate is an even more important variable in such calculations, and historically, ours has varied substantially. At the moment, fertility rates across the countries of the developed world, including Canada, are at low levels, but it is impossible to tell whether these levels will remain constant for a long time to come.

In Canada, the implications of low fertility have so far received relatively little public attention. The government of Quebec, in a document issued recently,² notes that province's rapid decline in fertility and calls for public debate on the policies needed to maintain an acceptable demographic equilibrium. In Europe, several countries have adopted explicit pro-natalist policies to boost their flagging birth rates; the policies range from generous family allowances and tax exemptions to prolonged maternity leave. Because most of these European measures are of relatively recent origin, and because it is too early to obtain an accurate assessment of their impact on fertility rates, most expert observers believe that they have made only modest contributions to slowing down the rate of decline in birth rates.³

These longer-term demographic concerns would be difficult to incorporate into the present process of determining immigration levels. For the economic category, admission is closely linked to labour-market considerations which, in turn, are linked to domestic business cycles. To incorporate explicit, long-term, demographic objectives for immigration levels requires a longer planning horizon and a change of criteria for determining eligibility.

The present rate of aging of Canada's population is a related demographic problem for which immigration has been suggested as one possible policy response. The projected eventual decrease in the relative size of the labour force will leave an increased tax burden on the economically active Canadians, who will have to fund pensions and social services. Population projections suggest that higher levels of immigration can contribute modestly towards increasing the size of our labour force and thus towards reducing the proportion of that segment of our total population which is over 65 years of age. For example, a population projection which assumes a constant fertility rate of 1.7 children per woman and a net immigration of 80 000 persons per year would result in a population of which 21.5 per cent would be aged 65 or older by the year 2030. (In 1980, the proportion of this age group in our population was 9.5 per cent.) A net immigration of 140 000 persons per year from 1986 onwards would reduce this proportion to 20.3 per cent; a net immigration of 20 000 persons per year would increase the proportion to 23.1 per cent.⁴

Notes

1. Canada, Employment and Immigration Canada, *Background Paper on Future Immigration Levels* (Ottawa: Minister of Supply and Services Canada, 1984).
2. Quebec, Ministère du Conseil exécutif, Secrétariat au Développement social, *L'Évolution de la population du Québec et ses conséquences* (Quebec: le Ministère, 1984).
3. Statistics Canada, *Current Demographic Analysis: Fertility in Canada: From Baby-boom to Baby-bust*, by A. Romaniuc (Ottawa: Minister of Supply and Services Canada, 1984), p. 117.
4. Frank T. Denton and Byron G. Spencer, "Prospective Changes in the Population and Their Implications for Government Expenditures", in *Ottawa and the Provinces: The Distribution of Money and Power*, edited by David W. Conklin, Gail Cooke, and Thomas J. Courchene (Toronto: Ontario Economic Council, 1985, forthcoming), Table 1.

Other Considerations

Aside from its demographic importance, immigration contributes to the expansion of productive resources in Canada's economy. This contribution can also have consequences for the level of per capita income that our economy can generate, although these consequences are difficult to determine both in theory and in practice. There seems, for example, to be a public perception that there has been a strong positive link between aggregate growth and growth of per capita income because, historically, the one has been associated with the other. The reality, however, may be that higher real incomes induce increased immigration.

While increased immigration is unlikely to have any dramatic effect on per capita incomes in Canada, the removal of all restrictions on migration throughout the whole world would have notable effects. Though, clearly, this possibility is politically infeasible, economists have long recognized that the flow of goods across borders is a substitute for the flow of people and capital. Changes in barriers to the international flow of goods, therefore, have to be considered alongside changes in restrictions on immigration. Through multilateral trade liberalization, per capita incomes in all countries would be improved. Thus, if a further objective of our immigration policy is, in a small way, to relieve population pressures in the developing world and to raise its countries' real incomes, Canada should adopt less restrictive trade policies towards these nations.

Living in a Multi-racial/Multi-cultural Society

The dramatic impact that immigration policies have had on the increasingly multi-racial composition of our national community appears clearly in recent census data. During the post-war era, the total proportion of the population of non-British/non-French origin rose substantially, from less than 20 per cent in 1941 to 33 per cent in 1981. Whereas, in 1960, the ten leading sources of Canadian immigrants were Italy, Britain, the United States, Germany, the Netherlands, Portugal, Greece, France, Poland and Austria, in 1982, the list of countries of origin was dominated by newcomers such as India, Hong Kong, Vietnam, the Phillipines, China and Guyana. Only the United States, Britain, Poland and Germany retained their significance from the earlier period. And if one pushes the comparison even further back in time, the contrasts between the sort of political community that Canada has been and the one we Canadians are fast becoming stand out all the more starkly.

While many Canadians are understandably reluctant to encourage public debate on policies framed to deal with racial and ethnic conflicts, it is essential that we recognize and come to terms with one of the most potentially explosive sources of political conflict in our increasingly multi-racial community. While the large influx of Canadian immigrants of non-European origin has not led to anything like the racial strife that the United States experienced in the late 1960s, or that Britain suffered just a few years ago, it would be imprudent to ignore early signals indicating the possibilities of racial strife in the years ahead. Problems experienced by Haitian taxi drivers

in Montreal, by Sikhs and Hindus in Vancouver, and by West Indians in Toronto indicate a need for all Canadians not only to help "settle" our new immigrants, but also to promote their full integration and participation in all occupations and walks of life. To this end, the recent *Report of the Special Committee on Visible Minorities in Canadian Society*¹ has advanced almost eighty recommendations which merit serious consideration. The creation of a harmonious multi-cultural and multi-racial society will require a high degree of tolerance and civility from all Canadians, reinforced by policies aimed at preventing foreseeable conflicts. The political viability of a less restrictive immigration policy will depend on our capacity to deal with the domestic challenges which are likely to flow from it.

Note

1. Canada, House of Commons, Special Committee on Participation of Visible Minorities in Canadian Society, *First Report to the House* (Ottawa: Queen's Printer, 1984).

Recommendations

This Commission has consciously avoided making precise recommendations about the flow of immigrants that Canada should allow to enter our country over the next few years. The matter calls for careful numerical calculations and firmly based demographic and economic models. It represents an area of Canadian policy which Commissioners perceive as little debated, under-researched, and extremely important. Commissioners are prepared, however to make several somewhat general recommendations:

- Canada should set its immigration levels on the basis of long-term objectives, rather than on that of short-term considerations. Therefore we recommend that a major study be done on Canadian demographic trends and their implications for future government policies relating to immigration, health care, education and pensions, to name only a few of the most obvious areas of concern. We Canadians need to learn much more about the problems of managing our country in the circumstances of a declining and aging population.
- Given the uncertainties involved in deciding both on an appropriate population size and on its age composition, Canada should follow that course which, in the past, has served our country well: that is, a less restrictive policy than that currently in place.
- Canada should support some increase in immigration flows closer to the historical average in post-war years. Recognizing that sudden shifts in immigration policy are undesirable, and that the current high unemployment rates in Canada make it difficult to adjust to higher levels of immigration, we propose that the Government of Canada establish a long-term plan for immigration and consider moving gradually towards higher levels of immigrants over a number of years.
- Canada should now place more weight on the general labour-market skills of potential immigrants and less on narrow occupational requirements. In Commissioners' view, given the objectives of current immigration policies, many of the weaknesses of present screening procedures are inevitable. Nevertheless, we recommend close liaison between business, labour and governments, as well as other parties interested in identifying particular needs. It is important that the criteria for selection of immigrants facilitate their absorption into Canadian society.
- In recommending this approach to immigration policy, this Commission is fully aware of the cultural, linguistic, economic and racial implications. Indeed, Commissioners recommend that immigration policy be debated more openly among Canadians, and that governments in Canada actively consider the "management" implications of a return to the more open-door policy of the 1960s.

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Labour/Management Relations

Labour/management relations vitally affect the income and employment opportunities of individual Canadians, as well as the quality of Canada's work environment. During this Commission's hearings, many complaints were put forward about the state of these relations, and a wide variety of remedies was proposed. To analyse these issues requires, first, that we determine what the problems are, and then, how they can best be resolved.

Unionization and Collective Bargaining¹

The most common measure of the extent of collective bargaining in an economy is the proportion of the non-agricultural labour force that is unionized. This measure of union density generally understates the effect of union organization, for not all workers covered by collective agreements are union members. The post-Second World War period has seen significant growth in the importance of collective bargaining in Canada. The unionized proportion of non-agricultural paid workers has increased from about 24 per cent in 1945 to about 40 per cent in 1983. By way of contrast, the unionized proportion of non-agricultural paid workers in the United States declined from about 35 per cent in 1945 to about 19 per cent in 1984, and it seems likely to continue to fall. Existing data do not provide comparable statistics on collective bargaining coverage,² but a recent study estimates that in 1977, about 86 per cent of employees covered by collective agreements were union members.³ By extension of this estimate, in 1983, between 45 and 50 per cent of non-agricultural paid workers were probably covered by collective agreements.

The increased importance of collective bargaining in Canada in this period reflects several forces. One is the substantial increase in the unionization in the public and quasi-public sectors,⁴ in which there was also substantial growth in employment. In addition, there has been steady but slower growth in unionization in the private sector, primarily because the area of most rapid growth in employment was that of services, a sector with a low proportion of unionization. Industries with a high propensity to unionize—manufacturing,

mining, forestry, for example—experienced relatively slow employment growth.

Changes in Canadian law have provided an important impetus for the growth of unionization. Roughly speaking, the law governing collective bargaining in Canada has passed through three main stages. Phase one was the period, mostly prior to Confederation, in which the law discouraged collective bargaining. Judges interpreted the common law to hold that collective action by employees constituted a criminal conspiracy. Other criminal and civil constraints, as well, were applied to both individual and group action by workers. In the second phase, which began in the 1870s, the law took a largely neutral view of collective bargaining. In particular, the Trade Unions Act of 1872, amendments to criminal law, and other legislative actions removed many of the restrictions on union formation and the collective withdrawal of labour. This neutrality lasted until the passage of the Wartime Labour Relations Orders (P.C. 1944-1003) in 1944; since this event, our government's stance towards collective bargaining has been favourable.⁵ P.C. 1944-1003, which was modelled on the Wagner Act, passed in the United States in 1935, gave most private sector employees the right to union representation and collective bargaining, provided a code of unfair labour practices, and established a labour-relations board to administer the law. A similar set of changes occurred in the mid-1960s, with respect to the public and quasi-public sectors. With the passage of the federal Public Service Staff Relations Act in 1967, and the enactment of similar legislation at provincial levels, governments encouraged collective bargaining and union formation in these sectors, which were also areas of rapid growth in employment. Thus, the post-war period became the era in which legislation provided a favourable environment for the spread of collective bargaining.

This crude division of the evolution of labour legislation into three main phases is useful, as such simplifications often are, but necessarily omits some important aspects. One is the evolution of the division of powers between the federal and provincial governments over labour-relations matters. This aspect is divisible into two main phases: pre- and post-1925. Until 1925, jurisdiction over labour-relations matters was assumed to rest with the federal government. In that period, the chief law regulating labour relations was the Industrial Disputes Investigation Act of 1907, which made a strike or lock-out illegal in certain important industries until after an inquiry had been conducted into the dispute, and the conciliation-board report had been forwarded to the minister and made public. The Snider case (*Toronto Electric Commissioners v. Snider*) of 1925 changed this presumed division of powers. Labour relations, the Privy Council decided, fell under property and civil rights, and thus under provincial jurisdiction.

After the Second World War, during which our federal government exercised jurisdiction under emergency powers, each province developed its own legislation governing industrial relations. Initially, most provinces adopted legislation similar to P.C. 1944-1003. Since the late 1960s, however, provinces have experimented more with labour legislation, and provincial labour codes now vary considerably. An important advantage of the existing jurisdictional division, from a national perspective, is this ability to

experiment with labour legislation, as well as to tailor the legislation to the conditions in each province.

Modelling the Wartime Labour Relations Orders P.C. 1944-1003 on the Wagner Act of the U.S. government resulted in the evolution of a unique North American industrial relations system, a system which has important structural differences from those of Europe, Japan and Australia, the other countries with which we Canadians most often compare ourselves. Of course, there are also important industrial relations differences between Canada and the United States, but the similarities are greater than the differences.

Most provinces also adopted this Wagner Act type of legislation, and in most jurisdictions there have been further legislative changes which have generally facilitated union organization. The extension of collective bargaining rights to employees in the public and quasi-public sectors is the most obvious example. Others include the broadening of the definition of "employee", which made more workers eligible for unionization; numerous changes to the certification process, which have facilitated union organization; increased restrictions on the termination of bargaining rights; and developments such as compulsory dues check-off, imposition of first contract, and stricter enforcement of the requirement to bargain in good faith, which have helped unions, once certified, to maintain their position.

The response to this favourable legislative environment has been dramatic. Table 17-1 compares growth rates for union membership and union density in seven countries, Australia, Canada, Japan, Sweden, the United Kingdom, the United States, and West Germany, between 1961 and 1980. Canada had the highest growth rate of these seven countries and, by the end of the period, had moved ahead of Japan and the United States in the ranking of countries by union density. (In 1961, Canada was at the bottom of this ranking.)

This dramatic difference in union growth in Canada relative to that in other countries is important in terms of some of the policy concerns of the last several decades: the level of strikes and lock-outs, and wage settlements, for example. The Canada-U.S. difference is especially striking, and is worth further examination.

As Figure 17-1 illustrates, union-growth patterns in Canada and the United States were similar from the 1920s to the 1960s, but they have diverged sharply since 1965. To fully assess the reasons for this sharp divergence is not possible here. One potential factor, which does *not* appear to have been an important cause, is the growth of public sector unions. There has been strong and roughly similar growth of these unions in both countries. The main difference has been that private sector unionism has declined in the United States, but grown in Canada. A study carried out for this Commission, points out that growth rates in the chief U.S. public sector unions were higher than those of their Canadian counterparts, while growth rates in the main private sector unions were significantly higher in Canada.⁶

One factor which appears to have played an important part in distinguishing Canada-U.S. union growth since the mid-1960s is the differences in laws—and their administration—governing union certification and the duty to bargain collectively in good faith. Another is the existence of a significant number of states, primarily in the South and West, with strong anti-union

TABLE 17-1 Union Membership Growth and Density in Selected Countries

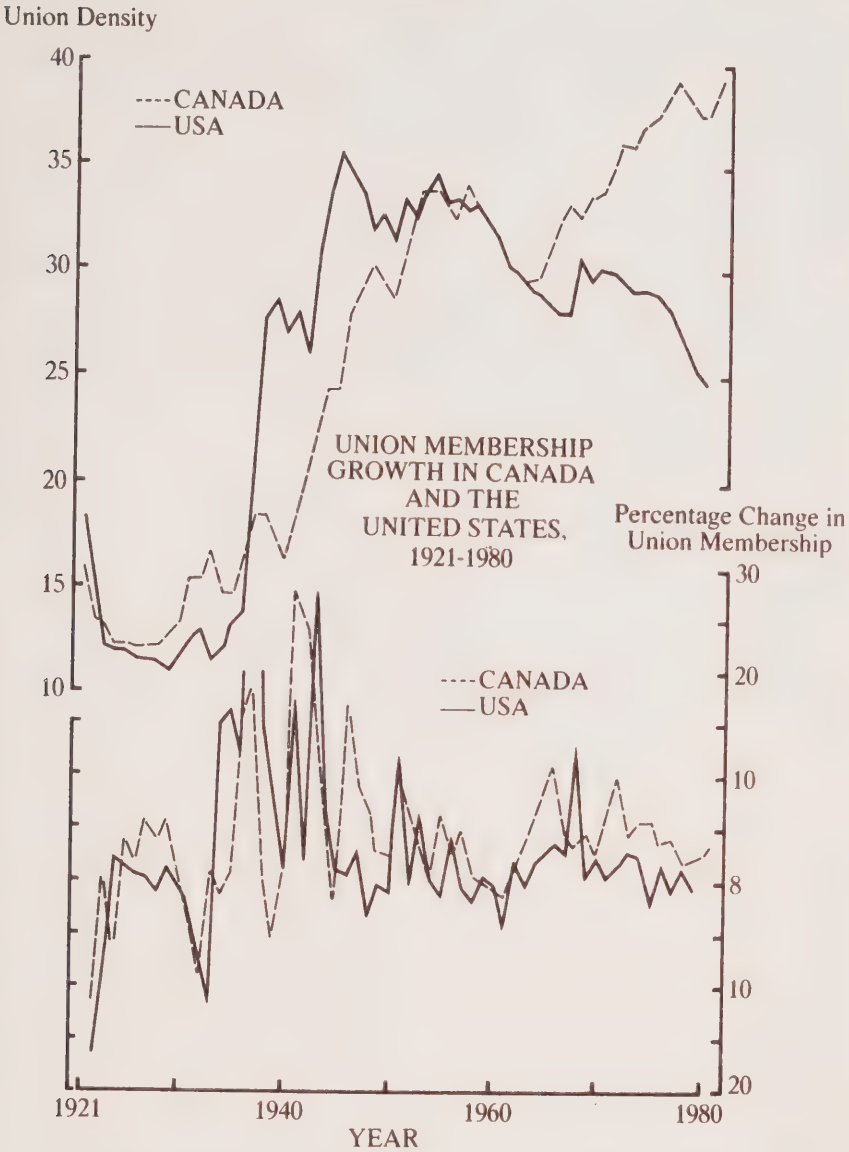
Countries	Membership (in thousands)		As per Cent of Wage and Salary Earners		Average Annual Percentage Change		
	1961	1971	1961	1971	1961-80	1961-71	1971-81
Australia	1 895	2 437	59.0	53.1	55.8	2.4	2.5
Canada	1 447	2 231	29.5	31.1	35.3	4.6	4.4
Japan	8 154	11 684	34.3	34.2	30.6	2.2	3.7
Sweden	1 922	2 622	62.5	75.6	88.8	3.1	3.1
United Kingdom	9 916	11 126	43.4	50.3	57.5	1.4	1.2
United States	16 303	21 327	30.2	29.9	24.7 ^a	1.7	2.7
West Germany	6 306	8 105	30.9	37.0	41.9	2.0	2.5

Sources: Union membership: Australia, Commonwealth Bureau of Census and Statistics, *Official Yearbook of the Commonwealth of Australia*; Canada, Labour Canada, *Labour Organizations in Canada*; Japan, Statistics and Information Department, *Yearbook of Labour Statistics*; Sweden, National Bureau of Statistics, *Statistical Abstract of Sweden*; United Kingdom, Department of Employment, *Employment Gazette*; United States, Bureau of Labor Statistics, *Directory of National Unions and Employee Associations*; West Germany, Federal Republic of Germany, *Statistisches Jahrbuch*. Wage and salary earners: OECD, *Labour Force Statistics*.

Note: International comparisons should be approached with caution in view of the different statistical methods and criteria used in compiling the figures.

a. 1980 estimate.

**FIGURE 17-1 The Trend in Union Density Growth
in Canada and the United States, 1921-1980**



Source: Based on data from Canada, Labour Canada, *Directory of Labour Organizations in Canada*; U.S., Department of Labor, Bureau of Labor Statistics, *Handbook of Labor Statistics*, Bulletin 2070 (December 1980), *Directory of National Unions and Employee Associations*, 1979, Bulletin 1079 (September 1980) and News USDL 81-446, September 18, 1981.

attitudes and laws which are less favourable to union organization. The U.S. system, for instance, requires an election some time after application for union certification has been made, whereas certification is automatic in most Canadian jurisdictions once a certain percentage of the employees have signed cards indicating their desire for union representation. U.S. unions lose many of these elections, and the proportion lost has been steadily increasing over the post-war period. The anti-union stance taken by employers in these elections appears to have been relatively strong in the United States, and its strength may reflect lengthy delays in remedying unfair labour practices and related gaps in legal enforcement. In respect to the administration of the law, an important difference is the relatively weak arsenal of remedial measures against violations of the requirement to bargain in good faith that is available to the U.S. National Labor Relations Board as compared to Canadian labour-relations boards. Responding to these incentives, many American employers have extended their anti-union stand beyond the certification process to the negotiation of the first contract, with the result that only about 60 per cent of certified unions are successful in negotiating a first contract with the employer. As for the final factor, the most rapid employment growth in the past several decades has been in the southern and western States. This rapid employment growth appears to contribute to a tendency for companies opening new plants to locate in areas that minimize the risk of union organization.

While the U.S. trend away from the union movement results from numerous additional factors, it clearly reflects, in part, an environment that has become increasingly hostile to collective bargaining. One of the concerns of the union movement is that a similarly hostile environment may develop in Canada. Such a development would require reversing many of the legislative changes made in the post-war era, and is, in this Commission's view, unlikely.

Examination of Canadians' attitudes towards unions is worthwhile, for policy makers will no doubt take into account public opinion.⁷ According to the Decima Quarterly Report on Public Affairs Trends, Canadians who were asked to rate their confidence in the leaders of twenty institutions (including banks, schools, provincial governments, oil companies, the federal government, multi-national corporations, newspapers, and the tobacco industry) consistently expressed less confidence in the leaders of labour unions than in those of any other institution. Even in union families, confidence in labour unions is low, although not as low as it is in non-union families. In response to a Decima question (asked in summer 1981 and summer 1982) forcing respondents to choose between "Unions in Canada have become too powerful" and "Unions are necessary in Canada to protect workers from exploitation", over 55 per cent of respondents chose "too powerful". Another Decima question (posed in summer 1980 and summer 1982) asked respondents whether they favoured or oppose greater government control over labour-union activity. Over 60 per cent of respondents favoured greater control; even among union members, a majority favoured greater government control over labour-union activity.

There is some evidence which suggests that Canadians' attitude toward labour unions has become less favourable over time. As the Honourable

André Ouellet, former Minister of Labour, pointed out in his brief to this Commission, the Gallup Poll has, since 1950, asked respondents whether they think labour unions are good or bad for Canada. In the 1950–58 period, between 10 and 20 per cent answered “Bad” and between 60 and 70 per cent “Good”. (The rest gave a qualified answer or expressed no opinion.) However, in the 1976–82 period, between 30 per cent and 42 per cent of respondents answered “Bad”, and between 42 per cent and 54 per cent answered “Good”.

The responses to these questions are, of course, open to a variety of interpretations. During the course of our meetings with the public, Commissioners found no strong anti-union attitudes among Canadians. In our experience, the role of the union movement in representing its members is respected and accepted. The focus of public concern is the creation of less adversarial labour-management relations and development of a better process for resolving industrial conflicts. The recommendations Commissioners make later in this section are intended to contribute to this outcome.

Notes

1. Further details on much of the material in this section are available in two studies prepared for this Commission: Pradeep Kumar, “Union Growth in Canada: Retrospect and Prospect”, in *Canadian Labour Relations*, vol. 16, and Joseph M. Weiler, “The Role of Law in Labour Relations”, in *Labour Law and Urban Law in Canada*, vol. 51, (Toronto: University of Toronto Press, 1985).
2. Data on collective bargaining coverage indicate coverage, in 1982, of 58 per cent, in establishments of 20 or more employees. However, because unions are much more common in establishments with 20 or more employees than in smaller establishments, and because the survey on which these data are based was limited in several other respects, these data overstate the importance of collective bargaining in the Canadian economy.
3. See R.J. Adams, “Estimating the Extent of Collective Bargaining in Canada”, Research Paper No. 223 (Hamilton: McMaster University, Faculty of Business, April 1984).
4. The term “public sector” refers to employees of federal, provincial and municipal governments. “Quasi-public sector” refers to employees in education, health, and related sectors which are primarily publicly funded.
5. Of course, this characterization of the evolution of collective bargaining law in terms of three main phases omits important developments within each phase. During the second phase, in particular, there were a number of legislative changes which made union organization somewhat easier. Furthermore, prior to the Second World War, some provinces passed legislation which could be considered forerunners of P.C. 1944-1003.
6. Kumar, “Union Growth in Canada”.
7. The following discussion of attitudes is primarily based on a Commission study by Richard Johnston, *Public Opinion and Public Policy in Canada*, vol. 35 (Toronto: University of Toronto Press, 1985).

Public Sector Labour Relations

Legislation permitting collective bargaining by government employees first appeared in Saskatchewan in 1944, but the process of extending collective bargaining rights to public sector employees began in earnest with amendments to the Quebec labour code in 1964. Three years later, in 1967, the federal government passed the Public Service Staff Relations Act (PSSRA), permitting employees of the federal government and its agencies to bargain collectively. This innovative legislation seems to have encouraged the other provinces to extend collective bargaining rights to their employees. At present, all Canada's jurisdictions grant collective bargaining rights to their public sector employees, but these rights range from the right to bargain collectively over a narrow range of issues, without the right to strike, to full collective bargaining including the right to strike. Public sector wage-restraint programs, which were initiated in 1982, and which remain in force in some jurisdictions, place additional restrictions on collective bargaining.

The legislative initiatives undertaken in the 1960s by our federal and provincial governments have been described as a "bold experiment". Certainly, Canada has gone further than most of the other countries with which we often compare ourselves in giving employees of the public and quasi-public sectors the right to bargain collectively and the right to strike. To construct detailed comparisons in this regard between Canada and other countries would be a difficult task, but a skeletal summary may be useful. The United States and the United Kingdom are the most obvious choices for comparison, since the United States shares with Canada a common private sector model for collective bargaining, and both the United States and the United Kingdom have exercised important, though unequal, influence on our industrial relations system.

Virtually all public sector employees in Canada are covered by comprehensive statutes which grant them the right to organize themselves into unions and to engage in collective bargaining. This right is not as well defined in some other countries. In the United States, for example, federal employees are permitted to form or join unions, but they lack the right to bargain with their employer. Compensation is set, primarily, according to comparability with the private sector. At the state level, the individual's right to form and join a union is protected, but the right to bargain collectively is not guaranteed in the absence of statutory provisions. Many States have been reluctant to provide such legislation. In Britain, while there are no statutory requirements that public sector employers must engage in collective bargaining with representatives of their employees, it would be unusual for employers to refuse to do so. The pay rates for employees of the central government (civil servants) are determined primarily by "fair comparisons" with the private sector.

The scope of bargaining in Canada's public sector is generally more limited than that in the private sector, but such limitations are also common in the United States. While Britain has no such statutory limitations, bargaining through a centralized structure tends to impose limits on issues that are normally subject to negotiation.

There are major differences, especially between Canada and the United States in the area of dispute-resolution procedures. Canada's federal sector is marked by a unique feature in that the employees' bargaining agent alone may select either the conciliation-strike or the arbitration route as the means for resolution of an interest dispute, should negotiations fail to produce an agreement. Our provinces tend to rely extensively on binding arbitration as the ultimate method of resolving interest disputes in the public sector. Nevertheless, the Canadian system goes far beyond that of the United States in permitting the use of the strike weapon. While limitations on the right to strike do exist in Canada, they fall far short of the outright ban that is in effect for most public sector employees in the United States.

The response to the legislative initiatives of the 1960s was indeed dramatic. Unionization of employees of federal and provincial governments increased markedly, and today almost 100 per cent of eligible employees are covered by collective agreements. In the 1970s, the unionization of teachers, nurses, hospital workers and related quasi-public/sector employees added momentum to the rate of union growth. During this period, employment growth was also strong in the government sector and in education, health and related services.

The very rapid growth in unionization in these sectors can be explained, in part, by the fact that most of these employees had previously been represented by associations which engaged in consultation with employers on wages and working conditions. Thus, in many instances, an organizational structure already existed. Nonetheless, the change from consultation with an employee association to collective bargaining was more than cosmetic in nature.

The rapid growth in collective bargaining within the public sector has led to considerable controversy. Wage settlements in the public and quasi-public sectors have been a prominent policy concern since the late 1960s. Large wage settlements by high-profile public and quasi-public sector employees, such as Seaway workers, public servants, teachers and postal workers, have been blamed by some observers for contributing to the inflation problem of the past twenty years. Thus they were responsible, partly at least, and possibly to an important extent, for the two major intrusions of government into collective bargaining in the post-war era: the 1975-78 Anti-Inflation Program and the wage-restraint programs introduced in 1982. The "Six-and-Five" scheme and related wage-restraint programs reflected, in part, a concern that public sector wage settlements were not being modified downward in response to the weak labour-market conditions brought on by the 1981 recession. Several analysts have attributed much of the responsibility for the 1975 Anti-Inflation Program to the spill-over effects of public sector wage settlements.

Public sector labour disputes have also generated controversy. Public opinion polls indicate that Canadians are becoming increasingly intolerant of strikes, especially in certain public services. The issues of which public and quasi-public sector workers should have the right to strike, and how disputes should be resolved for those denied that right have been at the forefront of policy debates.

Another trend, apparent since the mid-1960s, has been the increased use of back-to-work legislation. Table 17-2 shows the number of instances in which the federal and provincial governments have employed emergency back-to-work legislation during each five-year period since 1950. Most of the disputes terminated in this way have occurred in the public or quasi-public sectors. Those in the private sector have occurred primarily in the transportation sector. The dramatic escalation adds to the concern noted above about increased government involvement in the collective bargaining process, and this Commission views it as a serious issue.

Recent developments suggest to some observers that the federal and provincial governments are rethinking the changes made in the 1960s about collective bargaining and the right to strike in the public and quasi-public sectors. To the labour movement, this shift seems part of an attack on the institution of collective bargaining. To many others, including much of the business community, it represents necessary movement away from the overly permissive environment surrounding public sector-wage determination in the past two decades. It is probably accurate to state that governments are caught in a dilemma. On the one hand, they favour collective bargaining, under conditions reasonably close to that of the private sector, for their own employees and workers in the quasi-public sector. On the other hand, they are reluctant to live with the consequences: higher wages and more collective bargaining disputes, which are unpopular with voters.

This situation suggests that public sector labour relations may now have reached an important turning point. One view is that the current public sector-restraint programs are indeed temporary, and that there will be a return to collective bargaining along the lines that existed prior to 1982. An alternative view is that some of the present restrictions on public sector bargaining will remain. An extreme version of this second view holds that the period from 1964 to 1982 constituted an experiment with public sector

TABLE 17-2 Back-to-Work Legislation, 1950 – 84

Years	Federal Jurisdiction	Provincial Jurisdiction	Total
1950 – 54	1	—	1
1955 – 59	1	1	2
1960 – 64	2	1	3
1965 – 69	2	8	10
1970 – 74	4	9	13
1975 – 79	6	16	22
1980 – 84	1	18	19

Source: Unpublished data from Labour Canada, Federal-Provincial Relations and Liaison Branch.

collective bargaining along private sector lines, and that the experiment has now been concluded and judged a failure. To assess these views and their implications for collective bargaining in Canada, we must examine the Canadian experience with public sector labour relations.

The issue which has perhaps generated the most controversy has been that of public sector compensation. There is a strong conventional wisdom that the forces which influence wage determination in the private sector are not operative in the public sector or are, at least, distinctly muted. Most Canadians view these purported differences between the determinants of compensation in the two sectors as giving public sector employees, in the long run, a wage advantage over comparable private sector employees. This claim is reinforced by a general view that public sector employees enjoy greater job security than their private sector counterparts and therefore, if any distinction is to be made, should earn lower wages. In addition, it is often stated that public sector wages are less responsive to changes in economic conditions than are wages in the private sector. A related set of hypotheses involves the influence of public sector compensation on that in the private sector. These "spill-over" hypotheses can take two forms. One theory is that higher wage levels or higher rates of increase for wages in the public sector will affect wages in the private sector, possibly to the extent of imparting an inflationary bias to the economy. The second theory is that a lower sensitivity to economic conditions displayed in public sector-wage settlements suggests that in economic downturns, public sector settlements will decline less rapidly than those of the private sector. If public sector settlements affect those made in the private sector, the sensitivity of wage changes to economic conditions will be reduced in both sectors. The increased wage rigidity that results will make it more difficult to control inflation through demand restraint and will contribute to increased instability in employment and output. These hypotheses can be tested empirically. In Canada, economists and policy analysts have conducted a significant amount of research into these matters. The results of this research are briefly summarized here as they relate to two sets of comparisons: wage levels and wage changes.¹

Comparison of wage levels indicates that public sector employees typically enjoy a compensation advantage over "comparable" workers in the private sector. "Comparability" is generally established by one of two methods: comparing workers in the same occupation where the nature of the work is assumed to be similar, especially if the occupations are narrowly defined; and using data on earnings of individual workers, while controlling for other factors which affect compensation, such as age, education, sex, skill level and training. (Unfortunately, it is generally impossible to control for differences in employment security, nor is it certain that such differences exist.) The size of this compensation advantage is in the order of 5 to 10 per cent overall, though it varies considerably across groups of employees. It is largest for females and low-wage workers, and smallest—often, indeed, a disadvantage—for employees at higher salary levels.

This public sector-compensation advantage has not always existed. Studies indicate that in the 1950s, public sector employees were paid slightly less than comparable private sector employees. The opposite differential emerged in the

1960s and 1970s. Evidence indicates that this emergence primarily reflects two factors: the rapid growth in employment during this period and unionization. The first factor reflects the reality that in a sector characterized by rapidly growing labour demand, most employers are willing to pay somewhat higher wage increases, and most employees have the market or bargaining power to obtain increases that are somewhat higher than those typical of sectors growing at average rates. In short, wage increases are needed to attract additional workers into rapidly expanding sectors. This is a reality which operates in private industry, as well. The resulting compensation advantage will tend to disappear once employment growth slows to the average rate. Accordingly, the public sector-compensation advantage may decline somewhat in the future, as current forecasts indicate that employment growth in the public sector is likely to fall below average.

The second factor is unionization. It is well established that unionized workers are paid more than they would earn in the absence of unionization and more than comparable non-union workers. This union-wage differential primarily reflects the increased bargaining power accruing to employees from co-ordinated action (the strike threat) as compared to individual action (the quit threat). It is not surprising, then, that the very rapid growth of unionization in the public sector would produce something of a wage advantage, for union density is higher in the public than in the private sector. That is, even if unionized private sector employees were found to earn wages equal to their unionized public sector counterparts, and even if the same differential applied to non-union workers in the two sectors, public sector employees would be found to earn more, on average, than their private sector counterparts because the proportion of unionized workers is higher in the public sector. Since unionization of that sector is now virtually complete, this factor should not lead to any further broadening of the public sector-wage advantage. Indeed, it is likely to narrow somewhat because of projected slow employment growth in the public sector, relative to the private sector. The most recent evidence suggests, indeed, that the public sector-wage advantage peaked in the late 1970s and has declined modestly since that time. This evidence is consistent with the two factors mentioned above, for employment growth and unionization growth in the public sector have slowed considerably since the latter 1970s. Governments also have taken a stronger stand against increasing public sector wages, beginning with the agreement reached at the 1978 First Ministers' Conference.

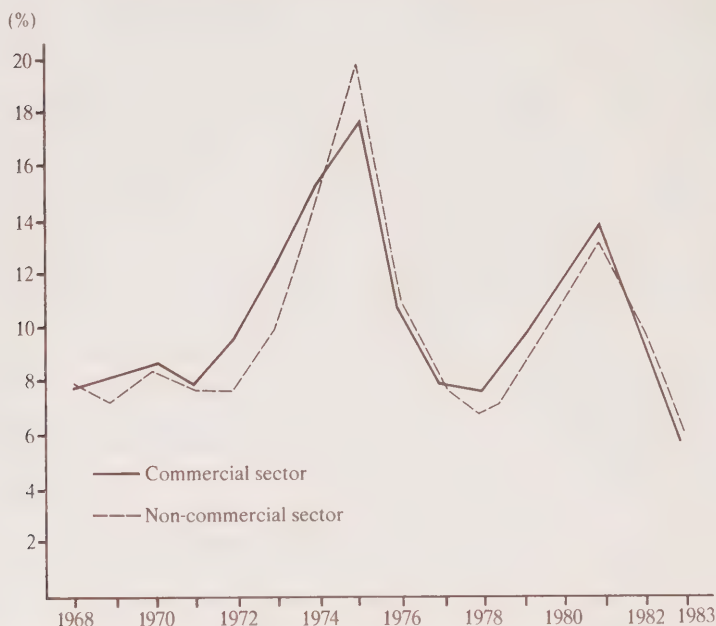
A serious limitation of the empirical studies of private/public compensation is that they are based on wage rates or earnings, and do not take into account fringe benefits and other non-wage aspects of compensation. The large and growing importance of fringe benefits makes such comparisons highly significant. Unfortunately, Canadian evidence on fringe benefits and working conditions is very limited. Cost estimates of benefits such as payment for time not worked, unemployment insurance, pension, health and welfare coverage, bonuses and profit sharing suggest rough comparability in fringe-benefit costs among municipalities, hospitals, education, government and large private sector firms. However, these comparisons do not take into account working

conditions such as job security or deferred compensation such as early retirement and indexed pensions. It is highly likely that valuation of such aspects would show that public sector employees have the more advantageous fringe benefits and other non-wage aspects of employment, adding to the wage advantage outlined above.

Examination of wage changes over an extended period provides a useful supplement to the comparisons of wage levels at a particular point in time. The primary source of information on Canadian wage changes is Labour Canada's data bank of base-rate changes in major collective agreements. Figure 17-2 shows the average annual negotiated wage change for contracts without cost-of-living/allowance (COLA) clauses in the commercial and non-commercial sectors, a division that corresponds very closely to the private and public sectors. Between 1968 and 1983, settlements in the non-commercial sector have averaged slightly below those in the commercial sector. The difference averaged 0.4 per cent per year over this period. Figure 17-3, taken from the brief submitted to this Commission by André Ouellet, the former Minister of Labour, breaks down the non-commercial sector by federal, provincial and local administrations. Since the end of the Anti-Inflation Program in 1978, similar patterns of wage settlements appear in all four sectors. However, before the introduction of the Anti-Inflation Program (AIP) in October 1975, there were significant differences: wage increases in provincial administration rose dramatically higher than those in the private sector, while wages in the local and federal administrations as Figure 17-3 shows, were higher than those in the private sector, but lower than those paid by provinces. Table 17-3 indicates that to include wage increases obtained under COLA clauses (which are much more widely used in the private than the public sector) maintains the record of similar wage patterns since the end of the AIP in 1978.

Comparison of wage changes over time indicates that there is little basis for the view that public sector-wage settlements are less responsive to changes in economic conditions than those in the private sector. Indeed, as Figure 17-2 illustrates, the cyclical behaviour of wage settlements in the two sectors is remarkably similar. In addition, empirical studies find that other determinants of wage changes, such as inflationary expectations and catch-up for unanticipated inflation, have very similar effects in the two cases. Thus, there is little evidence to support the view that the determinants of wage settlements operate differently in the two sectors to any significant degree. The one exception to this conclusion is that arbitrated awards, which are virtually non-existent in the private sector, but much more prominent in the public sector, do behave differently from those of private sector- and negotiated public sector-wage settlements. In particular, arbitrated awards exhibit less sensitivity to economic conditions than do negotiated settlements, but they show more sensitivity to the past effects of inflation and to movements in wages of similar workers elsewhere. However, arbitrated awards are not numerous enough to make the overall behaviour of public sector-wage changes different from that of corresponding private sector changes. Studies of wage changes have also concluded that there is relatively little support for

**FIGURE 17-2 Annual Average Wage Changes
Provided by Major Collective Agreements (without COLA)**



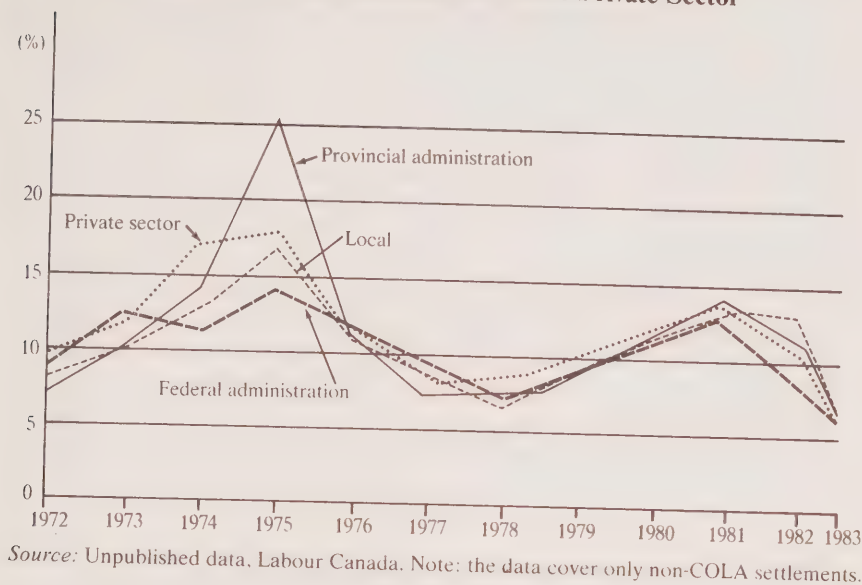
Source: Canada, Labour Canada, Wage Developments Resulting from Major Collective Bargaining Settlement.

Note: The non-commercial sector includes federal, provincial and municipal governments, plus highway and bridge maintenance, water systems and utilities, welfare organizations, education and related services, and hospitals. The commercial sector includes all other enterprises. Thus the commercial sector includes some enterprises, primarily Crown corporations, which some would include in the 'Public Sector' (e.g., CBC, Canada Post). To include these in the non-commercial sector would not significantly alter the averages.

the view that public sector settlements spill over in a general way into the private sector. There is, however, evidence of wage spill-overs from the public to the private sector in specific urban areas and particular occupations.

Two caveats should be noted. First, while wage increases in the public and private sectors have been very similar, on average, over the 1968–83 period, there is no certainty that this outcome would have occurred if the government had not intervened in the wage-determination process. The Anti-Inflation Program of 1975–78 was introduced, to a considerable extent, because of concern over the consequences of high public sector settlements in 1974–75. Empirical studies have found that the AIP imposed stricter restraint on public sector than on private sector settlements. Further, the wage controls introduced in 1982 applied only to the public sector. They may have had a “demonstration effect” on private sector settlements, but this effect was probably very modest if, indeed, it existed at all. Thus both interventions into the wage-bargaining process have apparently had a stronger effect on public sector settlements than on private sector ones.

FIGURE 17-3 Wage Settlements, Federal, Provincial and Local Administrations and in the Private Sector



Secondly, the data are seriously limited. They exclude non-union wage increases, which are more important in the private sector; they generally employ the base-wage rate: that paid to the lowest classification in the bargaining unit; they exclude the value of fringe and non-wage benefits; and they fail to take into account the possibility of "classification creep", a process by which individuals receive wage increases through promotion and reclassification. Each of these limitations may bias the comparison.

After comparing the evidence relating to public and private sector wages, Commissioners' chief conclusion is that it is not necessary, because of concern about the pattern of public sector wages, to make drastic changes in the legislation governing collective bargaining rights. It is true that unionization gives rise to higher compensation levels than would otherwise exist, and this development somewhat elevates the costs of providing schools, hospitals and other public services. This is one of the effects of collective bargaining, and it exists in the private sector, as well as in the public sector. Just as extensive unionization in the auto industry raises the price of cars, so extensive unionization among government employees raises the cost of public services. There does not, however, appear to be any reason to treat one group differently from another on these grounds alone.

This Commission notes, nevertheless, that there are important differences in the economic forces which affect wage settlements in the private and public sectors. While some differences may operate in the other direction, the overall effect of these forces is likely to raise public sector wages to some degree. Governments will therefore wish to continue to monitor wage developments in

**TABLE 17-3 Weighted-Average Annual Wage Increases
in Major Collective Agreements**

	1978	1979	1980	1981	1982	1983	1978-1983 Average
Commercial Sector							
Non-COLA contracts (888)	7.6	9.5	11.5	13.9	9.6	5.5	9.62
All contracts (1465)	8.2	10.8	11.6	12.9	10.1	5.7	9.88
Federal Government							
Non-COLA contracts (244)	6.6	8.2	10.8	12.6	7.8	5.5	8.58
All contracts (254)	7.1	8.4	11.3	12.7	8.6	5.5	8.93
Provincial Government							
Non-COLA contracts (195)	7.3	8.4	11.2	13.6	10.6	6.6	9.62
All contracts (222)	7.8	9.2	11.3	13.5	11.8	5.0	9.77
Local Government							
Non-COLA contracts (199)	6.4	8.7	10.4	13.2	12.9	5.7	9.55
All contracts (251)	7.3	9.3	10.8	12.8	11.9	5.8	9.65
Education, Health & Welfare							
Non-COLA contracts (829)	6.7	7.9	9.7	13.7	11.3	6.7	9.33
All contracts (1002)	6.8	8.2	9.9	13.4	11.4	6.7	9.40

Source: Canada, Labour Canada, E.I.R. Research File

Note: COLA wage increases are calculated on the basis of actual Canada Price Index (CPI) movements for the 1978-83 period, using a forecast 5 per cent CPI increase for 1984 (and beyond).

their jurisdictions, in order to ensure that these do not contribute to the development of another inflationary wage-price spiral in Canada.

Are Canada's public sector labour relations at a turning point? As with many controversial questions, two answers are offered. The Canadian Labour Congress (CLC) in its brief to this Commission made the following observation:

The collective bargaining system is one of the basic institutions of a democratic system. In Canada it is under a serious attack from governments and business. The most visible examples of this threat are in the public service, both federal and provincial. (Canadian Labour Congress, Brief, December 12, 1983, p. 18.)

A more sanguine observation recently referred to the "doomsday" and "optimistic" hypotheses: the former implied that a retreat from the existing public sector collective bargaining system is at present under way in Canada:

While the arguments advanced to support the doomsday hypothesis deserve careful attention, there is a considerable body of evidence to support the optimistic hypothesis. Even during the period in which public sector bargaining was expanding, there were attacks on the practice from several sources. Private sector employers not only complained about the cost of public services to the taxpayer, but were especially vehement when they believed that wages in the public sector exceeded those paid to employees in their sector. In addition, public reaction to strikes by public sector employees was almost uniformly negative. Periodically, governments and neutral observers suggested that public sector compensation be determined by direct linkage to the private sector, on the basis of parity between the two. In these circumstances, it would have been easy for most governments in Canada to restrict bargaining rights severely or not to grant them at all. But the federal government and a majority of provincial governments did give reasonably complete bargaining rights to public sector employees. Once the legislative framework was established, few changes were made in response to individual disputes. When a strike caused widespread inconvenience or threatened public safety (as with stoppages by municipal transit workers or hospital employees), ad hoc legislation was enacted ... Whatever the merits of [such] legislation, it did not change the fundamental structure of bargaining ...

In short, Canada's governments since the "mid-1960s have supported the principle of collective bargaining, both by the extension of bargaining rights to public employees and by making only marginal changes in the permanent legal framework once legislation was enacted. Since there is little evidence that this long-term commitment changed in the early 1980s, the optimistic hypothesis is supported.²

Earlier in this section, Commissioners mentioned that Canada has gone further than other countries in granting collective bargaining rights and the right to strike to its public sector employees. It is possible that our governments are presently reassessing their position, but it is important to note that any changes would be made from a position of relative "permissiveness", at least compared to the position of other countries. The central issue in contemplating any move is whether Canadian experience to date with public sector collective bargaining indicates that a major change in policy is warranted. Our conclusion is that the evidence on the patterns of public sector wages does not justify a major retreat from the existing system of collective bargaining. Canada's experience with the current labour-relations system in the public sector is limited, however, to the past two decades, and because there are important gaps in our collective knowledge (especially with respect to the value of fringe benefits and other non-wage aspects of employment), it is entirely appropriate that Canadians continue to assess the existing system. Increased attention to criteria used by arbitrators, to the costing of non-wage benefits, and to the use of compensation-comparability surveys will contribute to this assessment.

Notes

1. This summary is based primarily on two surveys of this literature: Morley Gunderson, "The Public Private Sector Compensation Controversy", in *Conflict or Compromise: The Future of Public Sector Industrial Relations*, edited by Gene Swimmer and Mark Thompson (Montreal: Institute for Research on Public Policy, 1984); and David A. Wilton, "Public Sector Wage Compensation", in *Canadian Labour Relations*, vol. 16, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
2. Mark Thompson and Gene Swimmer, "The Future of Public Sector Industrial Relations", in *Conflict or Compromise: The Future of Public Sector Industrial Relations*, edited by Mark Thompson and Gene Swimmer (Montreal: Institute for Research on Public Policy, 1984), pp. 443–44.

Collective Bargaining Disputes

The amount of strike and lock-out activity is probably the most commonly used measure of the state of a country's labour/management relations. In Canada, the view that the state of those relations has deteriorated in the last 15 to 20 years is based, to a considerable extent, on the increased incidence of collective bargaining disputes.¹

Canadian policy makers have long displayed considerable concern with strikes and lock-outs. Each of the steps along the road to the Canadian collective bargaining system which emerged in the 1940s was taken in response to some sort of industrial crisis, usually a strike. The first major piece of labour legislation in Canada was the Industrial Disputes Investigation Act of 1907, which made work stoppages illegal until after a conciliation board had investigated the dispute and submitted a report. This Act was Parliament's response to strikes by workers in coal mines, railways and sawmills. The Wartime Labour Relations Orders (P.C. 1944-1003) is arguably Canada's most important piece of labour legislation. Its passage appears to have been prompted as much by the need to minimize work stoppages during the Second World War as by the desire to encourage collective bargaining and unionism. The post-war period has seen further additions to regulations governing strikes and lock-outs.

Concern about the number of collective bargaining disputes in Canada has been expressed in many quarters. For example, an editorial in the *Financial Post* noted that in 1980-82, "there was proportionately more time lost in Canada as a result of strikes and lockouts than in any other Western nation". The editor went on to observe:

The cost of this abysmal record is devastatingly high: lost wages and hardship for workers, reduced business for other businesses because of fewer orders and less consumer spending, disrupted delivery schedules for the struck company that often means permanent loss of orders (sometimes to foreign competitors), soured management-labor relations, setbacks in product development, and a less-attractive investment environment. In today's harshly competitive world, these are costs to society we can less and less afford to bear.

The damaging effects of labor strife are apparent to management and labor—and to government, which has a crucial role to play both as employer and as author of labor legislation . . . there seems little evidence that these interested parties are sufficiently agitated about our appalling strike record to get some needed changes in the works . . . Clearly, ours is a system desperately in need of revision.²

Other observers have argued that too much attention is paid to collective bargaining disputes as compared to other aspects of labour/management relations or to economic concerns in general. Time lost in labour disputes is small in absolute terms: it amounts to roughly 0.33 per cent of total work time, or about one day per year, a total roughly equivalent to the time given to celebrating Canada Day. Moreover, as the Minister of Labour pointed out in his brief to this Commission, time not worked because of industrial disputes is consistently less than that lost to occupational accidents and illness, and to absenteeism from other causes.

Methods of measuring the amount of strike and lock-out activity depend on the purpose at hand. If that purpose is to assess the economic costs associated with collective bargaining disputes, then the sum of person-days lost to strikes and lock-outs offers a rough, but probably reasonably valid, estimate. If the purpose is to compare strike and lock-out activity across countries, time periods, regions or industries, then the comparison should take into account differences in strike and lock-out potential. The most obvious factors accounting for differences in this area are differences in unionization (for almost all strikes and lock-outs occur in the organized sector) and differences in the number of contracts in process of negotiation (for most strikes and lock-outs occur during contract renegotiation). The ideal measure of strike activity is the degree of probability that a dispute will occur in a given round of contract negotiations: that is, the propensity to strike or lock out.

While there are substantial variations from year to year, it is clear that the extent of strike and lock-out activity (as measured, for example, by the percentage of paid workers involved in disputes or by the person-days lost as a percentage of total working time) was greater between 1965 and 1983 than between 1946 and 1965. Person-days lost as a percentage of working time averaged 0.17 per cent from 1946 to 1965, and 0.34 per cent from 1966 to 1983, an increase of 100 per cent.³ The average loss of 0.34 per cent of working time for the post-1965 period is also high by historical standards. During the period from 1919 to 1945, working time lost to strikes and lock-outs averaged less than 0.12 per cent. It would be a mistake, however, to conclude from these statistics that the labour-relations climate has worsened since the mid-1960s, without first examining the causes for these trends.

It must be recognized that the strike potential of the Canadian economy has also increased in the period since 1965. In particular, union density (the unionized proportion of the non-agricultural labour force) was approximately the same in 1965 as in 1946, whereas it has increased significantly since 1965, primarily because of the growth in unionization in the public and quasi-public sectors. Furthermore, union density was considerably higher in the post-war period than in earlier periods. Even if a constant proportion of negotiations resulted in strikes or lock-outs (that is, if strike propensity were constant), there would be an increase in the number of collective bargaining disputes if more of the labour force joined unions. Adjusting for the increase in unionization reveals that some, but certainly not all, of the increase in time lost to strikes and lock-outs—a loss that rose from about 0.17 per cent of working time in 1946–65 to 0.34 per cent in 1966–83—can be accounted for by increasing unionization.⁴

Unfortunately, even this simple adjustment is not as uncomplicated as it might appear because much of the growth in unionization was in the public sector. Although public sector strikes have come to represent an increasingly large proportion of total strikes (rising from 2.4 per cent of strikes and 1.1 per cent of time lost in 1962–65 to 17.8 per cent of strikes and 20 per cent of time lost in 1978–81), the public sector's propensity to strike is lower than that of the private sector. In part, this difference reflects the fact that arbitration is much more extensively used as a dispute-resolution mechanism in the public sector than it is in the private sector.

Does the increase in time lost to strikes indicate that strikes are more numerous or that they last longer? The answer is clear: Average strike duration has not changed significantly over the post-war period. Between 1946 and 1965, strikes lasted 19 days, on average; between 1966 and 1981 they lasted an average of 18 days.

Canada has not been the only country to experience an increase in the number of collective bargaining disputes since the mid-1960s. Nevertheless, the increase does seem to have been larger in Canada than in most other countries, and this situation means that our relative position has deteriorated compared with that of other countries. If, for example, we compare 11 countries (Belgium, Denmark, France, West Germany, Italy, the Netherlands, Norway, Sweden, the United Kingdom, the United States and Canada) on the basis of days lost to labour disputes per employed person, we find that Canada's relative position deteriorated from seventh place in the years between 1948 and 1957, to ninth place from 1958 to 1967, and to tenth place from 1968 to 1981. In the last period, only Italy's record exceeded Canada's.⁵ These data do not, however, take into account differences in union density, the structure of collective bargaining, the frequency of negotiations, the definition of strikes and lock-outs and other differences across countries, which can affect their ranking.

Table 17-4A shows the number of labour disputes per worker and Table 17-4B the number of labour disputes per unionized worker, thus adjusting for differences in union density across countries. Table 17-5A and 17-5B show respectively the number of working days lost per worker and per unionized worker. Clearly, Canada stands among the more dispute-prone countries. On the basis of number of disputes per unionized member, France has the worst record, followed by Italy and Canada, and then the United States, the United Kingdom and Denmark. The remaining countries have low levels of strike and lock-out activity. In terms of working days lost per union member because of labour disputes, Canada has the worst record, followed closely by Italy and then by the United States, the United Kingdom and France. Both Canada and the United States fare poorly in international comparisons of strike and lock-out activity, based on working time lost to labour disputes. The reason is that disputes tend to last longer in North America than in most European countries and in Japan. For the period from 1977 to 1981, for example, the average duration of work stoppages was about 20 days in Canada and the United States, seven days in the United Kingdom and Norway, five in Germany and Sweden, and fewer than four in Denmark, France, Japan and Italy.

International comparisons of the number of labour disputes are very difficult to make because of differences in the way such disputes are defined and measured, and because of substantial differences in collective bargaining institutions among countries. The most significant comparison is that between Canada and the United States, because of the similar nature of their collective bargaining institutions and measurement procedures. Thus a good test of the view that our labour-relations climate (as measured by strike and lock-out activity) has deteriorated relative to that of other countries would involve a Canada-U.S. comparison.

TABLE 17-4A Number of Strikes and Lock-outs per 1000 Workers, 1960-1981

Country	1960-64	1965-69	1970-75	1976-81	1970-81	Rankings	
						1976-81	1970-81
Belgium	0.013	0.018	0.053	0.056	0.054	5	5
Denmark	—	—	0.044	0.088	0.067	7	6
France	0.106	0.092	0.175	0.147	0.161	10	9
Italy	0.177	0.164	0.244	0.123	0.181	9	10
Netherlands	0.017	0.006	0.006	0.006	0.006	1	1
Norway	0.007	0.004	0.008	0.011	0.010	2	2
Sweden	0.005	0.005	0.019	0.028	0.024	3	3
United Kingdom	0.102	0.096	0.114	0.081	0.098	6	8
United States	0.052	0.064	0.065	0.046	0.055	4	4
Canada	0.050	0.077	0.094	0.099	0.096	8	7

Sources: *International Labor Profiles* (Detroit: Grand River Books, 1981); and E.M. Kassalow, "Industrial Conflict and Consensus in the U.S. and Western Europe", in *Labor Relations in Advanced Industrial Societies*, edited by B. Martin and E.M. Kassalow (Washington, D.C.: Carnegie Endowment for International Peace, 1980).

TABLE 17-4B Number of Strikes and Lock-outs per 1000 Unionized Workers

(using average number of strikes and lock-outs 1976-81 and union-membership data for 1978)

Country	Union Membership 1978	Number of Strikes and Lock-outs per 1000 Members	Ranking
Belgium ^a	2 621 000	0.08	4
Denmark	1 553 000	0.138	5
France	5 320 000	0.580	10
Italy	8 000 000	0.311	9
Netherlands	1 700 000	0.017	1
Norway	976 000	0.022	2
Sweden	3 240 000	0.036	3
United Kingdom	12 376 000	0.161	6
United States	22 798 000	0.195	7
Canada	3 278 000	0.306	8

Sources: *International Labor Profiles* (Detroit: Grand River Books, 1981); and E.M. Kassalow, "Industrial Conflict and Consensus in the U.S. and Western Europe", in *Labor Relations in Advanced Industrial Societies*, edited by B. Martin and E.M. Kassalow (Washington, D.C.: Carnegie Endowment for International Peace, 1980).

a. Based on union membership in 1976.

TABLE 17-5A Number of Working Days Lost to Labour Disputes per 1000 Workers, 1960-81

Country	1960-64	1965-69	1970-75	1976-81	1970-81	Ranking 1970-81
Belgium	80.0	72.3	227.6	182.8	205.3	6
Denmark	—	—	306.2 ^a	109.0	206.4	7
France	148.3	125.5	169.1	140.4	154.7	5
West Germany	18.4	5.6	40.8	36.2	38.5	2
Italy	632.1	822.2	1 128.9	880.0	999.0	11
Netherlands	28.1	4.9	57.3	22.7	39.5	3
Norway	103.9	7.4	41.1	32.6	36.6	1
Sweden	4.5	25.1	61.3	195.1	130.2	4
United Kingdom	128.9	158.1	522.1	465.0	493.4	9
United States	277.4	490.8	501.9	353.5	422.1	8
Canada	191.8	663.0	835.5	786.1	808.7	10

Sources: *International Labor Profiles* (Detroit: Grand River Books, 1981); and E.M. Kassalow, "Industrial Conflict and Consensus in the U.S. and Western Europe", in *Labor Relations in Advanced Industrial Societies*, edited by B. Martin and E.M. Kassalow (Washington, D.C.: Carnegie Endowment for International Peace, 1980).

a. 1972-75

TABLE 17-5B Number of Working Days Lost to Labour Disputes per 1000 Unionized Workers

(using average number of days lost 1976-81
and union membership data for 1978)

Country	Days Lost	Ranking
Belgium ^a	259.1	6
Denmark	169.6	4
France	555.0	7
West Germany	100.9	3
Italy	2 221.6	10
Netherlands	64.4	2
Norway	62.3	1
Sweden	250.3	5
United Kingdom	923.0	8
United States	1 486.8	9
Canada	2 440.5	11

Sources: *International Labor Profiles* (Detroit: Grand River Books, 1981); and E.M. Kassalow, "Industrial Conflict and Consensus in the U.S. and Western Europe", in *Labor Relations in Advanced Industrial Societies*, edited by B. Martin and E.M. Kassalow (Washington, D.C.: Carnegie Endowment for International Peace, 1980).

a. Based on union membership in 1976, and average days lost during 1976-80.

Table 17-6 shows the working time lost per 1000 workers in the two countries since 1960. Clearly, both strike and lock-out activity have grown more in Canada than in the United States. Once we adjust for the divergent trends in union growth, however, the outcome is more equivocal. As Table 17-6 shows, the number of strikes and lock-outs per union member has not been consistently higher in Canada than in the United States, though time lost per union member has typically been higher here since 1972.

One factor that complicates a Canada-U.S. comparison is that many unionized public sector workers in the United States lack the right to strike, while their Canadian counterparts enjoy this right. Thus a valid comparison of the two countries should examine the private sector alone. An examination of private sector strike and lock-out activity per union member in Canada and the United States since 1960 indicates some increase in these activities in both countries, but the increase is greater in Canada. In our country, for example, the number of private sector work stoppages per 1000 union members averaged 0.40 per cent in 1966-76, as compared with 0.23 per cent

TABLE 17-6 Strikes and Lock-outs in Canada and the United States, 1960 - 83

Year	Strikes and Lock-outs per 1000 Union Members		Time Lost to Strikes and Lock-outs per 1000 Union Members	
	Canada	U.S.A.	Canada	U.S.A.
1960	0.184	0.195	506	1 120
1961	0.188	0.207	923	1 000
1962	0.204	0.218	996	1 121
1963	0.219	0.203	633	974
1964	0.219	0.217	1 059	1 360
1965	0.301	0.229	1 479	1 347
1966	0.335	0.246	2 983	1 416
1967	0.259	0.250	6 069	2 292
1968	0.278	0.267	2 529	2 591
1969	0.273	0.299	3 736	2 252
1970	0.231	0.295	3 009	3 427
1971	0.245	0.267	1 285	2 477
1972	0.233	0.258	3 247	1 393
1973	0.261	0.270	2 229	1 408
1974	0.429	0.301	3 376	2 376
1975	0.382	0.257	3 783	1 598
1976	0.303	0.288	3 817	1 928
1977	0.235	0.277	1 050	1 800
1978	0.306	0.209	2 255	1 824
1979	0.297		2 347	
1980	0.280		2 642	
1981	0.270		2 546	
1982	0.168		1 602	
1983	0.162		1 247	

Sources: Canada, Labour Canada, *Directory of Labour Organizations in Canada* (various years); United States, Bureau of Labor Statistics, *Handbook of Labor Statistics* (1983); and *Directory of National Unions and Employee Associations* (1979).

in 1960–64, an increase of 74 per cent. The comparable statistics for the United States were 0.31 per cent in 1966–76, as compared with 0.23 per cent in 1960–64, an increase of 35 per cent. The comparison of time lost per union member is even less favourable to Canada's economy: an increase of 287 per cent in the Canadian private sector, as compared with a growth of 86 per cent in the United States over the same periods.

Commissioners' examination of the evidence on work stoppages leads us to conclude that strike and lock-out activity has been significantly greater during the last 20 years than in earlier periods of Canada's history. This increase cannot be attributed simply to the increase of collective bargaining in our economy, for the amount of strike and lock-out activity per union member has also risen significantly. Several other countries have experienced a higher incidence of strikes and lock-outs, beginning in the mid-1960s. The increase has been relatively greater in Canada, however, so that we Canadians are now among the most dispute prone of the industrialized nations. This record suggests to this Commission that Canada may have room for improvement with respect to the number and length of work stoppages.

In order to determine what we Canadians can or should do about strike and lock-out activity, we need to understand the causes of collective bargaining disputes. Undoubtedly, as with any complex phenomenon, there may be multiple causes of labour/management dissension. Nevertheless, it is useful to ask whether there is any general framework which might help us to understand collective bargaining disputes, and which might serve as an aid to forming work-life/policy decisions.

A simple explanation is that strikes and lock-outs result from bad personal relations between employers and employees and/or management and union leaders. These poor relations lead one or both sides to adopt unrealistic bargaining positions, reducing the likelihood of concessions that would lead to a settlement. This explanation is difficult to verify, for even if "bad personal relations" could be measured, how would one know whether the bad relations caused the strike or vice-versa? Nonetheless, poor relations may well be a factor, since the ability to see things from the perspective of the other side is an important ingredient in any negotiations.

Alternatively, union militancy or bargaining power has been seen as the primary source of strikes and lock-outs. If this view is correct, labour disputes should be more frequent at times when unions enjoy greater bargaining power, and work stoppages should occur more often in those industries, firms or regions where union bargaining power is greater. This theory is at least consistent with the general finding that strike and lock-out activity tends to increase in "booms" and decrease in recessions. There is, however, a serious logical difficulty with this theory: As long as both sides recognize that an increase in bargaining power has occurred, why should this increase make a strike more likely? In other words, variations in bargaining power should lead to variations in the size of wage settlements, other conditions being equal, rather than to variations in strike and lock-out activity. For this reason, more recent and more widely accepted explanations of collective bargaining disputes have tended to focus on the information available to the two parties and on the costs of a work stoppage to both sides.

Strikes and lock-outs impose costs on both parties. During a work stoppage, workers lose income, and a firm loses profits. More permanent losses may also accrue: some of the firm's customers who have turned to competitors during the shutdown may not return. If this happens, profits will be lower, and jobs will be fewer even after production resumes. If, then, strikes and lock-outs are costly to both sides, why do they occur?

In a world of certainty and of perfect information, resort to strikes and lock-outs should rarely, if ever, be made. Both sides would anticipate their point of settlement; thus, barring irrational behaviour, they would agree to that outcome and avoid the costs of a shutdown. In any bargaining situation, however, each side will be somewhat uncertain about the willingness of the other to make concessions and about the other's "true" minimum demands. This lack of certainty leads to strategic behaviour, such as bluffing, since it is in the interest of each side to convince the other that they are less willing to yield than, in fact, they are. Imperfect information will result in divergent expectations that will elicit different responses to changes in the external economic environment. Moreover, it will usually not be in either side's interest to reveal its own private information, as this revelation might make its behaviour more predictable.

These factors indicate that collective bargaining is a complicated "game" in which uncertainty and imperfect information can lead to impasses, despite the costs to both sides. In choosing whether or not to make a concession, each party will weigh the risk of an impasse against the possibility of a relatively unfavourable outcome for its own side.

The repetitious nature of collective bargaining situations can also be important. Today's strike or lock-out, despite its costs, might enhance one side's reputation for "toughness", making its threats more credible in the future. Through repeated bargaining, the two sides might learn about each other's preferences and behaviour. Both these factors suggest that work stoppages should be more likely to occur in relatively new collective bargaining situations, rather than in mature established ones. The first factor tends to this conclusion because there is a stronger incentive for both parties to invest in their reputations when those reputations are not yet established. The second factor tends in the same direction because the gradual accumulation of each side's knowledge about the other should make impasses less likely. The dramatic growth in unionization that has taken place since the mid-1960s brought many new participants into the collective bargaining process. This explanation may account for the escalation of employment-related disputes that has been observed during the same period.

A further complication of collective bargaining is that there are three parties involved: management, the union leaders, and the union membership. Information flow among all three groups can be important. One well-known explanation of strikes devolves from the workers' expectations of a settlement. If these expectations are higher than the firm can afford, the union leaders, who are likely to be better informed than the members about the firm's ability to pay, may recommend a strike rather than attempt to persuade the membership to lower its expectations. The latter is a risky strategy for the

union leaders to follow, as it makes them appear to be taking the firm's part in the negotiations.

Information-based explanations thus treat strikes and lock-outs as a hazard of collective bargaining in the same sense that accidents are a hazard of travelling. Just as more accidents occur under poor driving conditions, so more strikes and lock-outs occur under poor economic "driving conditions". When economic conditions are stable, impasses are less likely to occur. Both sides will recognize at what point they are likely to settle, and both will prefer to reach that point without incurring the cost of a work stoppage. When economic conditions are rapidly changing, however, it is more difficult for the two parties to anticipate the likely point of settlement, and a strike or lock-out becomes more probable, despite the costs it represents to both sides. While uncertainty and imperfect information do play an important part in the occurrence of impasses, both parties, in coming to their negotiating decisions, will nonetheless take into account the potential costs of a strike or lock-out. Thus, the greater the possible costs to both sides, the less likelihood there is that an impasse will develop.

Alternative explanations have quite different implications for policy with respect to strike and lock-out activity. Explanations that focus on bargaining power or union militancy typically lead to recommendations for reducing union power. If bad personal relations are an important cause of labour disputes, policies such as preventive mediation, which attempt to improve relations between employer and employee representatives, should reduce the number of work stoppages. Explanations which cite imperfect information typically lead to recommendations for increasing the quality and quantity of information available to the bargaining parties. Emphasis on the joint costs of strikes and lock-outs leads to the recommendation of policies that will raise the costs of reaching an impasse.

A study prepared for this Commission concludes that Canada's relatively high number of strikes and lock-outs and the increased incidence of work stoppages over the past 20 years can be explained in terms of several factors relating to the information required of, and available to, the negotiating parties.⁶ The openness of the Canadian economy, the importance of cyclically unstable industries, such as mining, which have high strike/lock-out rates, the large number of items covered by North American collective agreements, the decentralized nature of collective bargaining, and the absence of institutional mechanisms for the exchange of information among employers, employees and the union leadership all contribute to a high level of work stoppages compared to that of other countries, which generally do not share all of these characteristics. According to this explanation, the increased extent of strike and lock-out activity since the mid-1960s is partly the result of the increased volatility of the economic environment, which has been evident over the same period. Canada's strike and lock-out activity has increased more than that of the United States because of the greater openness of our economy and our greater sensitivity to fluctuations in resource and commodity prices.

This Commission recognizes that these various structural features of the Canadian economy and labour-relations system may well contribute to

Canada's high levels of strike and lock-out activity. Some of these features, such as our nation's industrial structure, should clearly not be altered in order to reduce the number of collective bargaining disputes. Other features, however, are worth examining to this end. Commissioners have therefore examined a number of means of reducing the incidence of work stoppages.

Labour/Management Co-operation and Improved Sharing of Information

In this Commission's view, increased co-operation and consultation among management, workers and their union representatives would improve their personal relationships and thus reduce the number of strikes and lock-outs; these improvements would also confer other important benefits on those directly involved and on Canadian society in general. Because of the importance that this Commission attaches to this proposition, we shall deal fully with the topic in "Labour/Management Co-operation", later in this chapter.

Shorter Contracts

Shorter contracts, requiring more frequent negotiations, would allow fewer problems to accumulate during a contract period. Negotiations of such contracts would be subject to less uncertainty about the future, for economic conditions two or three years ahead are usually much less predictable than those of the next year. While more frequent negotiations would increase the number of opportunities for engaging in strikes and lock-outs, they could also be expected to reduce the propensity to strike or lock out and the length of such impasses as would occur.⁷ They would thus reduce the extent of strike and lock-out activity.

In Commissioners' opinion, the higher propensity to strike and lock out associated with longer contracts can be reduced through more frequent contact between labour and management during the contract period; this result would come about through greater use of joint consultation and other mechanisms for improved labour-management co-operation. This Commission, therefore, does not favour restricting contract length as a means of reducing strike and lock-out activity.

More Centralized Collective Bargaining Structure

The structure of collective bargaining in Canada is highly decentralized and fragmented. Most negotiations occur between an individual union and an individual employer, often at the level of an individual establishment. Many employers deal with several unions in the same establishment. Some analysts have suggested that this fragmentation of bargaining units is one factor accounting for our poor strike and lock-out performance, and they have proposed the remedy of broader-based bargaining: that is, bargaining on a plant-wide, industry-wide, or even province-wide basis. There is a two-fold logic behind their proposal. Its first aspect has to do with the number of strike

or lock-out opportunities, and the second has to do with the costs of a work stoppage to the two sides. More broadly-based bargaining obviously reduces the number of strike or lock-out opportunities by reducing the number of separate sets of negotiations. If a work stoppage does occur, however, it will involve more employees and, if it requires industry-wide or province-wide bargaining, more employers. Thus while broadening the bargaining bases should reduce the number of work stoppages, the effect on time lost to work stoppages is less clear. Still, the fact that a work stoppage involving more employees and employers would raise the costs of a strike or lock-out to both sides should increase the pressure on both to negotiate a settlement.

At first glance, international comparisons do seem to support the view that more-centralized collective bargaining structures would reduce the number of strikes and lock-outs. Countries with centralized bargaining systems, such as Austria, Norway, Sweden, Germany and the Netherlands, have also been characterized by a low incidence of strikes and lock-outs. France, Italy, the United Kingdom, the United States and Canada, which have less-centralized bargaining systems, are characterized by relatively high levels of collective bargaining disputes, as Table 17-4 shows.

Before we Canadians draw any firm conclusions from these data, however, we must recognize that the countries with centralized bargaining systems also have other characteristics which contribute to their low incidence of strikes and lock-outs. These attributes include highly developed welfare states, high levels of unionization, a labour movement with significant political influence, and extensive use of tripartite incomes policies. In these countries, the scope of collective agreements is much less extensive than in Canada; that is, many non-wage employment benefits are regulated by the state rather than negotiated with employers. One well-known view is that the combination of these attributes has reduced strike and lock-out activity by transferring conflict over income distribution from the industrial to the political arena.⁸

Experience with more broadly-based bargaining in Canada indicates that centralization cannot be expected to achieve favourable results in all cases, but that it can do so in particular situations. Broader-based bargaining structures are relatively more common in British Columbia and Quebec than in the rest of Canada. The British Columbia Labour Code allows the province's Labour Relations Board to create councils of unions if the Board believes that to do so would be in the public interest. Provincial legislation also facilitates consolidation on the employer's side by allowing for the common accreditation of groups of employers as bargaining agents, and a number of employers have followed this route. In other jurisdictions, such accreditation legislation is usually confined to the construction industry. In Quebec, province-wide negotiations between employers and unions, relating to the staffing of hospitals and schools operating under supportive legislation, largely account for the degree of centralization.

In response to the problems of the construction industry, which were evident both in escalating conflict and in inflationary wage settlements, several provincial governments introduced accreditation legislation during the late 1960s, in order to facilitate employers' acquisition of countervailing power. Following this process of consolidation, construction-wage increases

fell more into line with those of other industries. This change suggested that broader-based bargaining had some effect in moderating wage increases, even in the face of strong construction demand. A detailed case study concluded that centralized bargaining in the industry has been associated with more stable wage scales and across-the-board settlements which apparently reduced "leapfrogging" among trades.⁹ The effect on strikes and lock-outs was, initially at least, less favourable. While the number of labour disputes within the construction industry declined during the 1970s, following consolidation, working-days lost increased dramatically. Although strike activity increased generally during the 1970s, the problem in the construction industry became notably worse as work days lost rose to three times the all-industry average. British Columbia and Quebec, where structural change was greatest, had the worst construction-strike records of the 1970s. Recent studies suggest, however, that greater stability has returned to the construction industry in these two provinces as broader-based bargaining has gained acceptance.

A highly negative assessment of centralization emerges from a recent study of public sector bargaining in Quebec.¹⁰ On the one hand, bargaining between a union common front and provincial government management has eliminated the potential fragmentation of separate negotiations by 12 unions, five centrals and at least five separate management organizations. The "hypercentralization" of the present system has not, however, eliminated fragmented action in the form of wildcat strikes. Intra-organizational conflicts have broken out on both sides, and the distance separating workers, local managers and the collective bargaining process has increased. Collective bargaining has also become an important political event. Moreover, strikes in every bargaining round since the early 1970s (representing over six million lost work days) have sparked discussions of restrictions on the right to strike and challenge the whole system of collective bargaining in Quebec's public sector.

These cases paint a less-than-optimistic picture of the general effect of centralization on time lost to strikes and lock-outs. Nevertheless, some public policy experience, notably in British Columbia, does point to the value of consolidation in specific areas. The experience with the formation of multiple unions in the shipyards of Vancouver in 1966 and the creation of a union council for the BC Rail Ltd. in 1976 appear to have turned out more favourably. The latter move was the most significant factor in reducing the frequency and length of work stoppages, as well as securing their easier resolution.¹¹

Railways, shipyards and construction all represent examples of strike-prone interdependent operations historically characterized by craft fragmentation. In such operations, a strike by any one group can produce a total shut-down. These cases would seem to constitute the most promising area for selective intervention. As a general goal of public policy, however, centralization does not appear to be a panacea and may actually be detrimental to industrial peace. In fact, centralization can be expected to have largely negative consequences for the representation and bargaining processes. These consequences include a reduction in local flexibility and autonomy for both

management and workers, and restriction of the scope for worker participation. As a result, workers may become alienated and frustrated. Intra-organizational conflict also becomes more likely, making negotiations a longer and more costly process.

The limited evidence that is available from case studies broadly supports this negative perception. One study, based on an investigation of the public service in Saskatchewan, concluded that centralization generally slowed the bargaining process by lengthening negotiations.¹² The slow-down occurred partly because of the need to consult with more people, and partly because of the greater visibility of centralized settlements and a reluctance of bargaining units to settle before other groups. Intra-organizational bargaining problems also intensified as negotiations became more highly centralized, and bargaining was based on smaller understanding of day-to-day operating problems. Local management handled grievances with less flexibility, for instance, and this reduction caused problems in local labour/management relationships. This result was attributable, to a significant extent, to a decline in management interest and willingness to devote time to matters now seen as others' responsibility. Centralization also appeared to narrow the range of issues discussed at the bargaining table. Another study of a sample of public mass-transit organizations in the United States reported equally negative consequences of centralization for worker participation.¹³

Evidence taken from international comparative analyses also suggests that under centralized bargaining systems, shop-floor workers and union members lack influence in the collective bargaining process. This problem appears to be particularly acute among minority groups within unions, including women, younger workers and "guest" workers. In Europe and especially in Sweden and Germany, dissatisfaction with lack of representation has been advanced as one explanation for the outbursts of wildcat-strike activity that occurred in the late 1960s.

Legal Regulation of Strikes and Lock-outs

The right to strike or to lock out is heavily regulated in Canada as compared to other countries. This regulation takes three main forms. One, common to most jurisdictions in the post-war period, makes strikes or lock-outs illegal during the term of a collective agreement and imposes grievance arbitration for resolving disputes relating to the interpretation of that agreement. This situation is different from that in the United States, for example, where the parties are usually free to strike or lock out during the term of a collective agreement or to negotiate an agreement which provides for grievance arbitration of any disputes which may arise. The second regulation relates to disputes which arise in negotiating a collective agreement; it typically requires resort to compulsory conciliation before a strike or lock-out can occur. Such provisions have been a feature of Canadian legislation since the early 1900s. In addition to the time requirement of the conciliation process, several jurisdictions impose a "cooling-off period", after which a strike or lock-out becomes legal, and some jurisdictions provide for the arbitration of a first

contract in the event of an impasse. Most jurisdictions also stipulate a mandatory strike vote, which requires that the union members vote in favour of a strike before it can occur. Some jurisdictions also allow the employer the option of requesting a vote on the employer's last offer prior to a strike. The third regulation makes strikes over the issue of union recognition illegal in most jurisdictions.

In the first section of this chapter, Commissioners noted that most of the legislative changes made to Canadian collective bargaining law in this century were intended to control or avoid work stoppages, and that the right to strike or lock out is heavily regulated in Canada, relative to other countries. Yet, as we have seen, our incidence of collective bargaining disputes is very high by international standards. This might suggest that our law has been ineffective, perhaps even perverse, in attempts to reduce work stoppages. This conclusion should not, however, be hastily accepted. It is possible that the level of work stoppages in Canada would have been even higher in the absence of these various regulations controlling the use of the strike or lock-out weapon. We noted earlier that a number of structural features of the Canadian economy and the world economic environment since the mid-1960s may account for Canada's relatively high level of work stoppages. Moreover, a recent empirical study has concluded that certain features of Canadian labour legislation had a significant effect on strike incidence.¹⁴ In particular, compulsory conciliation was found to reduce strike incidence in those jurisdictions and time periods in which that requirement obtained. The effect of compulsory conciliation was found to be stronger when it involved a conciliation board, with its power to recommend a settlement. The requirement for a mandatory strike vote also reduced significantly the probability of a strike, while the cooling-off period and the employer-initiated strike vote tended to increase the likelihood of strikes.

Some of the existing labour legislation, such as compulsory conciliation, may well be having its intended effect. Commissioners believe, however, that the scope for further legislative initiatives to reduce the incidence of collective bargaining disputes is probably very limited. Lower levels of collective bargaining disputes are more likely to result from increased co-operation, consultation and exchange of views and information between labour and management than from additional legislated restrictions on the use of the strike or lock-out.

Reassigning the Third-Party Costs of a Dispute

Can governments reassign the costs of strikes and lock-outs? The costs of some disputes are borne primarily by the two parties involved, in the form of reduced income and profits, so that there is little reason for public policy involvement. In other instances, the dispute will result in significant costs being borne by third parties, often customers or suppliers. Again, there may be costs to society as a whole if the stoppages affect Canada's reputation as a dependable supplier, or if they change the decisions of firms to locate and invest within our borders. In these circumstances, the social cost of the dispute exceeds the private cost to the negotiating parties. These are the

situations in which there is a clear role for public policy, which could deal with these situations in a variety of ways. One is to require the disputing parties to compensate the affected third parties, thus ensuring that the disputing parties take more fully into account the social costs of their decisions and actions. Although this procedure is appropriate in principle, it runs into serious practical difficulties which make it appear impracticable. Governments could try, instead, to reduce the third-party costs of such disputes. They could accomplish this aim and confer other significant benefits, as well, by encouraging competition and thus increasing the availability of substitute goods or services for consumers. This option, therefore, has considerable appeal. In some situations, governments are responsible for the erection of barriers to competition in the first place. The postal service provides a useful example here: to allow greater competition in the delivery of mail and parcels would confer important benefits on our society, including reduction in the social costs of labour disputes within the postal system. Indeed, it appears that the third-party costs of a disruption in postal service have declined in the past decade, because of the growth of other delivery services.

When labour disputes are significantly affecting third parties and it is neither possible nor socially desirable to encourage competition, governments stand in a difficult position. On the one hand, intervention to end the dispute will undermine the collective bargaining process in the long run. On the other hand, governments will come under severe pressure from the affected public to "do something". Most of these situations occur in the public and quasi-public sectors. Commissioners' concern is that if a method is not found for dealing with these situations, governments will retreat from the existing right-to-strike provisions and possibly even from the right-to-collective-bargaining provisions.

Governments' current method for dealing with these situations is to allow the dispute to continue until public pressure builds sufficiently to mandate intervention and then to use back-to-work legislation. As Table 17-2 demonstrates, the use of such emergency legislation has been increasing dramatically in recent years. This pattern of response has the unfortunate effect of making such disputes more likely in the future because it reduces the expected cost of the strike or lock-out to the negotiating parties. That is to say, if the firm or the workers expect that they will be legislated back to work, they will anticipate a short strike or lock-out that will cost them relatively little. Such expectations are quite reasonable, given the pressures on governments and, indeed, their past behaviour, as evident in Table 17-2. In these circumstances, it is reasonable to ask whether there is a viable alternative to the strike or lock-out as a method for resolving impasses. The alternative that has been chiefly employed is arbitration.

Interest Arbitration

The use of interest arbitration has grown substantially in Canada over the past 20 years, simultaneously with the growth of unions in the public and quasi-public sectors. Although its use varies across jurisdictions, arbitration is

widely used among hospital workers, police, firefighters, teachers and government employees. In some instances, arbitration is imposed by statute; in others, the parties may choose it; and occasionally, it is employed on an *ad hoc* basis as part of back-to-work legislation in particular disputes. Its two main forms are conventional arbitration, in which the arbitrator chooses an award after hearing arguments and evidence from the two parties, and final-offer arbitration, in which the arbitrator, after receiving briefs and hearing evidence, must choose either the employer's or the union's final offer. Conventional arbitration is by far the most widely employed system in Canada. In the United States there has been more experimentation with final-offer arbitration and its variants.

Arbitration, like the strike or lock-out, is intended to be used infrequently, in those circumstances where the two parties are unable to reach agreement. An important consideration, then, is the effect of arbitration on the incentives of each side to make concessions and, ultimately, to converge on a settlement. One concern is that the availability of arbitration as a dispute-resolution mechanism would reduce the parties' incentives to reach a negotiated settlement; this possibility is referred to as the "chilling effect" of arbitration. It would occur, for example, if arbitrators tended to "split the difference" between the two parties' positions. Another concern is that when arbitration represents the ultimate mechanism for choosing a settlement, one or both parties will simply "go through the motions", but withhold the time and effort required for serious negotiations. Over time, both might rely more and more on arbitration to determine wages and working conditions; this possibility is referred to as the "narcotic effect" of arbitration.

Evidence for the validity of these concerns is inconclusive. There is some which suggests that the parties might experience the narcotic and chilling effects of arbitration. If these effects do occur, however, they advance so slowly and mildly that their very existence is still debated. Thus there is little evidence to support the view that collective bargaining will disappear when arbitration is used as a dispute-resolution mechanism.

Final-offer arbitration has the advantage of offering the disputing parties greater incentives to reach a negotiated settlement, for the longer they delay doing so, the greater the risk that the arbitrator will choose the other side's final offer. This method, however, has disadvantages as well as advantages. There are a clearly identified "winner" and "loser", and the arbitrator may be forced to choose between two extreme and unworkable awards. Experiences with final-offer arbitration (most of them in the United States) suggest that these negative concerns are largely unfounded, and that a higher proportion of negotiated settlements is achieved under final-offer arbitration than under the conventional type. Nevertheless, experience of final-offer arbitration is limited, and more experiments will be needed before a more conclusive judgement on the merits of the two types can be reached.

Another important consideration relating to the use of arbitration is the effect on wages. Evidence on this matter is mixed: several studies show no systematic difference on this score between arbitrated and non-arbitrated settlements, although most indicate that a slight upward bias in wages does occur in arbitrated awards. Assessors of this evidence should keep in mind,

however, that the existence of arbitration as a dispute-resolution mechanism can be expected to change negotiated settlements. That is to say, in the process of negotiation both disputing parties will consider what an arbitrator is likely to deem an appropriate award. Thus arbitration will effect not only arbitrated awards, but also settlements negotiated under the threat of arbitration. As a result, arbitration could be affecting wages even if no systematic difference is observed between arbitrated and non-arbitrated wage settlements.

Debate continues on the question: To which factors should arbitrators give the greatest weight to in devising an award? The main criteria used by arbitrators, in decreasing order of importance, appear to be comparability with wages earned by similar workers, changes in the cost of living, and the employer's ability to pay. Other factors, such as productivity of the workforce and the achievement of minimum living standards, receive little weight. The emphasis given to comparability and living costs is probably greater than that assigned by settlements negotiated under the threat of strikes or lock-outs. Similarly, arbitrated awards probably place less emphasis, in comparison to other factors, on the employer's ability to pay and on productivity.

We Commissioners recognize that Canadian experience with arbitration as a dispute-resolution mechanism is limited, and that the practice is continuing to evolve. Nevertheless, experience to date indicates that arbitration does provide a viable alternative to the strike or lock-out in those situations where the third-party costs of a work stoppage are deemed by society to be excessive. Predictions that collective bargaining would wither away with the use of arbitration have not been realized. Wage settlements negotiated under arbitration or under the threat of arbitration are likely to depend more on factors such as compensation comparability and the cost of living, and less on the relative bargaining power of the two sides. Experience to date does not suggest, however, that arbitrated awards are likely, on average, to be excessive. In this Commission's view, therefore, repeated use of back-to-work legislation is probably more harmful to collective bargaining than the requirement that disputes be resolved by arbitration.

Notes

1. The well-publicized but less-than-fully-understood slow-down in productivity growth has probably played a part as well. There is, however, no conclusive evidence to link the productivity slow-down to a deterioration in labour/management relations.
2. "We Can't Afford This Strike Record", *Financial Post*, August 27, 1983.
3. For more detailed statistics on strike and lock-out activity, see Robert Lacroix, "Strike Activity in Canada", in *Canadian Labour Relations*, vol. 16, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985), on which several parts of this section are based.
4. Time lost per union member averaged 2.5 days per year over the 1966 – 83 period, compared to 1.5 days per year for 1946 – 65, an increase of 67 per cent.
5. See Table 14 in Lacroix, "Strike Activity in Canada".
6. See Lacroix, "Strike Activity in Canada".

7. A recent Canadian empirical study by Jean-Michel Cousineau and Robert Lacroix, "Why Does Strike Activity Vary Over Time and Between Industries?" (Montreal: Université de Montréal, 1983) found that the shorter the length of the previous contract, the lower was the probability that a strike or lock-out would occur in a particular set of negotiations, if other factors were held constant.
8. Douglas A. Hibbs, "On the Political Economy of Long-Run Trends in Strike Activity", *British Journal of Political Science* 8 (April 1978): 153-75.
9. See Joseph B. Rose, *Public Policy, Bargaining Structure and the Construction Industry* (Toronto: Butterworth, 1980).
10. See Gérard Hébert, "Public Sector Bargaining in Quebec: A Case of Hypercentralization", in *Conflict or Compromise: The Future of Public Sector Labour Relations*, edited by Gene Swimmer and Mark Thompson (Montreal: Institute for Research on Public Policy, 1984).
11. See K. Strand, "Altering Union Bargaining Structure by Labour Board Decision", in *The Labour Code of British Columbia in the 1980s*, edited by J.M. Weiler and P.A. Gall (Vancouver: Carswell, 1984).
12. See Daniel G. Gallagher and Kurt Wetzel, "Centralized Multi-Employer Negotiations in Public Education: An Examination of the Saskatchewan Experience", *Journal of Collective Negotiations* 9 (1980): 281-95.
13. See J.L. Perry and H.L. Angle, "Bargaining Unit Structure and Organizational Outcomes", *Industrial Relations* 30 (1981): 47-59.
14. Morley Gunderson, John Kervin, and Frank Reid, "The Effect of Labour Relations Legislation on Strike Incidence" (Toronto: University of Toronto, 1985).

Labour/Management Co-operation

There is a widespread view that Canada's labour-relations system is too adversarial in nature, and that Canadians should move toward a more co-operative system marked by stronger emphasis on problem solving, more consultation, and deeper mutual respect and trust. This view was expressed many times at this Commission's hearings, by individuals and groups with a wide variety of backgrounds and perspectives. It is also held by many Canadians involved in collective bargaining, and by many who devote much of their time and energy to the study and analysis of that process. Our history in this area reveals several attempts and failures to make labour relations less controversial, and any objective assessment of prospects must take this history into account.

At present, in Canada and elsewhere, there is considerable interest in, and experimentation with, various forms of employer/employee interaction that depart from the traditional authoritarian and adversarial mould. Some of this increased interest is undoubtedly a result of the recent severe recession and the pressures for adjustment it brought; increased interest in improving the general climate of industrial relations seems to be characteristic of times of economic stress. It appears, however, that some of these pressures are more permanent in nature.

This Commission shares the view of many Canadians that increased consultation and co-operation between labour and management should be an objective of Canada's labour-relations policy, as well as of employers and employees generally. While there will always be some adversarial aspects to labour/management relations, Commissioners consider that there has been too strong a focus on "dividing up the pie" and too weak a concern about the "size of the pie". Increased co-operation and consultation, although not without some costs, can yield significant benefits in the form of a more enjoyable work environment for employees. Broader employee involvement in planning and decision making can result in improved productivity, better product quality and more competitiveness. Each of these improvements can benefit both employers and employees by producing higher profits *and* wages, as well as more employment opportunities. In addition, the need for flexibility and adaptability in our economy is more likely to be met in an open labour-relations environment. Finally, reductions in labour/management conflict, expressed through strikes, lock-outs, grieving and other procedures, should also occur.

To examine the prospects for bringing about a less adversarial labour-relations climate requires that we consider the incentives for, and obstacles to, increased co-operation and consultation, the role of government in labour relations, and institutional mechanisms for dealing with this important area of our national life. There is a variety of mechanisms for achieving a less-adversarial labour-relations environment that is more directly oriented to problem solving. We turn now to a consideration of some of these mechanisms.

Preventive Mediation Programs

These programs attempt to improve relations between union and management representatives. Conciliation officers and mediators, who are assigned to assist parties involved in collective bargaining disputes, see numerous instances of poor relations among representatives of labour and management. They may recommend, therefore, that these two groups take part in a preventive mediation program, which helps the parties to achieve a more mature and constructive relationship. This process takes place in the absence of the pressures involved in negotiating a particular contract.

The Ontario Ministry of Labour's Preventive Mediation Program¹ has three components: establishment of Joint Action Committees, made up of representatives of labour and management, to improve communication between the two groups; a relationship-improvement program to develop the attitudes necessary for rebuilding strained relationships; and a joint training program to provide stewards and supervisors with improved methods for maintaining better relations.

Experience with these programs is limited, and the degree of their success is difficult to measure. Generally, however, the participants in, and administrators of, the programs consider them effective, and there have been some notable successes. To some extent, of course, success may be related to the fact that programs are implemented only when the two parties demonstrate a commitment to improving their relationship. At any rate there appear to be no serious obstacles to the use of these programs, in which governments are involved as facilitators and neutral third parties.

This Commission judges that preventive mediation programs can contribute to improved labour/management relations and can help to reduce collective bargaining disputes. These programs might also help to create the conditions needed for adoption of innovative approaches to improving labour/management relations such as Quality of Working-Life programs.

Quality of Working-Life Programs

Quality of Working-Life (QWL) programs involve employer-employee collaboration in the planning and structure of the work-place and the work process. They focus on employer/employee interaction, rather than on interaction between union and management representatives. Their primary purpose is to improve job satisfaction by enabling employees to achieve more variety, scope and autonomy in carrying out their tasks. QWL programs require a change in management attitudes and practices, away from an authoritarian style towards a more facilitative, consultative and advisory one. They proffer one strategy for achieving worker participation at the level of the individual or small group, and for extending collective bargaining beyond its traditional union-leader/management-representative type of interaction. Further, they are intended not just to improve labour/management relations, but also to engage employees and supervisors or other managers in efforts to improve total organizational effectiveness.

Some governments have enhanced the expanding public interest in QWL programs. The Ontario Department of Labour, through Ontario's Quality of

Working Life Centre, disseminates information to workers and employers about the potential benefits of employee involvement at the work-place and has fostered new innovative work arrangements in the province. Labour Canada, through its QWL Division, supports initiatives, disseminates information, and sponsors conferences and studies.

There are a number of outstanding examples of particular QWL projects in Canada. The Shell Canada Limited chemicals plant in Sarnia provides one famous example. In 1975, the company decided to discontinue traditional methods of organization and job design in order to increase organizational effectiveness and meet the needs of workers. Its QWL program is based on the belief that workers are responsible, trustworthy, capable of self-regulation, and interested in grasping opportunities for decision making and growth. Design objectives included the reduction of shift work, a modification of pay systems, the elimination of artificial jurisdictional boundaries, the improvement of communications systems, and the adoption of more effective problem-solving practices. The union was involved in the entire program. So far, the results of the program have been excellent. The effectiveness of the work force has been enhanced by training a given employee to perform in a number of skill areas, by improving communications and problem-solving practices, and by involving workers in significant consultation on all matters. Labour/management relations in the plant are said to be highly satisfactory.

While several QWL programs have produced successful results, many have been failures. Measures of overall success are not available, but the experience of Ontario's Quality of Working Life Centre suggests that the attrition rate of these programs is high, probably about 50 per cent. Moreover, diffusion is slow, suggesting either that there are few circumstances in which these programs are likely to give successful results, or that there are obstacles to their adoption. The main obstacles appear to be scepticism on the part of management, together with a reluctance to deviate sharply from traditional methods of decision making and organization, and concern on the part of organized labour that QWL programs may be an attempt to discourage unionization in a non-union setting.

A certain amount of scepticism and reluctance to alter traditional methods is natural, and probably even desirable, in an uncertain world. Nonetheless, this Commission believes that the evidence to date, while limited, suggests that QWL programs can help to improve employee morale and job satisfaction, and promote organizational effectiveness and productivity. To the extent that this is so, these programs should come into wider use, since employers and employees will find them to their common benefit. Governments can play a useful supportive role, providing information on the likelihood of implementation and success of these programs. The Ontario Quality of Working Life Centre can serve as a useful model of this facilitating role.

Japanese-Style Human-Resource and Management Practices

The remarkable success of the Japanese economy, especially with respect to productivity and real-wage growth, has focused attention on various features of the Japanese economic system, including its human-resource and

management practices. Compared to North American ways, these practices involve greater emphasis on achieving consensus within an organization and much broader use of consultation with employees and union representatives at all levels within a firm, in advance of key decisions affecting the well-being of employees.

The Japanese labour market and labour-relations system has a number of other unique features which have contributed to its remarkable performance. These include lifetime employment for a significant fraction (about one-third) of the labour force, the seniority-wage system, extensive use of bonus payments, enterprise unionism, and annual wage bargaining. While these features are very important and have numerous consequences, we shall consider here primarily the extensive use of consultation between employers and employees in Japan. It is important, however, to keep in mind that these other institutional features interact with and support the widespread use of consultation and consensus formation.

The Japanese employ a variety of mechanisms for achieving co-operation and employing consultation at various levels of their economy.² At the shop-floor level, there are quality-control circles. At the plant level, there are union-management consultations, collective bargaining procedures, and grievance-handling mechanisms which do not rely on third parties. In addition, joint labour/management consultation is common in non-union firms. At the industry level, industrial union federations and employer federations for that industry meet regularly to exchange information and views and to engage in annual wage negotiations. At the national level, unions, employers and government engage in tripartite consultations. In addition, union and management representatives jointly operate the Japan Productivity Centre.

Quality-control circles consist of informal discussion sessions in which small groups of workers (usually eight to ten employees along with the relevant supervisor) make suggestions for improvements to the organization of work, the production process, the product line, and so on. These sessions have been found to contribute, not only to higher productivity, greater profitability and improved product quality, but also to the quality of industrial working life. They thus share important features with QWL programs in that they are focused on employee-employer interaction at the small working-group level and on discussing methods for improving the organization of work to the benefit of both employees and employers.

Joint consultation is widely used in both unionized and non-unionized firms. In unionized firms, this practice complements and overlaps with collective bargaining. Matters such as the health of the enterprise, investment plans, the introduction of new technology, changes in organization, mergers and sub-contracting are not usually covered by collective bargaining, but are dealt with under joint consultation if they significantly affect the work-place and working rules. Japanese employees thus operate in an environment in which they are informed and consulted about matters which might materially affect their well-being. In Canada, by way of contrast, most employers are considerably less open with their employees.

The development of Japan's joint consultation system is worth reviewing. Joint councils were set up by the Allied Occupational Forces following the Second World War, as part of an attempt to democratize Japanese enterprises and encourage the formation of unions and the process of collective bargaining. Unions within the joint council structure pressed for an equal role in the running of the enterprise, and a number of significant strikes took place over this issue. The result of these and later legislative changes was the emergence of a system of "management rights" similar to those common in North America: that is to say, management took responsibility for making decisions about the introduction of new technology, production and employment matters, and other important concerns.

At this point, the Japanese industrial relations system might well have begun to evolve along the adversarial lines of the North American system, on which the Allied Occupational Forces had partly modelled it. However, beginning in the mid-1950s, when the government initiated the "Productivity Movement" and moderate leaders of labour and management formed the Japan Productivity Centre (JPC), joint labour/management consultation entered a phase of substantial growth and development. The JPC played an important part in this development by promoting joint consultation as a means of bringing about the co-operation between labour and management that was necessary for the introduction of new and more productive technology into the work-place.

In the mid-1950s, the initial efforts at joint consultation focused on the attempts to modernize Japanese industry. In those years there were numerous, often violent, labour disputes because unions considered these issues to be threats to job security, and employers held them to be production matters within their own discretion. Nevertheless, labour/management consultation became more widespread, and at the same time, it broadened in scope to include discussion of details of corporate operations, medium- and long-range plans, recruitment and personnel practices, and many other aspects of working life.

While joint consultation is conducted within a framework wherein the employer is assumed to have the final power of decision over matters that are not incorporated into a written collective agreement, in the majority of instances, there is considerable effort to achieve consensus before any significant change is implemented. In addition, surveys indicate that only about 10 per cent of firms act unilaterally when management and labour fail to reach consensus.

The JPC has played an important role in improving labour/management co-operation in Japan over the past three decades. Initial funding for the JPC was provided by government, but it was understood that the Centre was to be run by labour and management representatives, along with prominent academics. The JPC's activities were to focus not only on the improvement of technical and managerial efficiency, but also – and primarily – on the improvement of labour/management relations in Japan. Initially some unions were reluctant to participate in the JPC and to join the Productivity Movement, fearing loss of jobs from the rationalization of plants and apprehensive that increased

productivity simply meant working harder and faster for the benefit of the owners and managers of the firm. Other unions, however, foresaw long-term benefits in the Productivity Movement and agreed to participate when it became clear that the union movement could do much to develop the Centre's beliefs and activities. The formal statement of these guiding principles was instrumental in overcoming the suspicions of unions and persuading almost all private-sector unions to participate actively in the Productivity Movement. The Centre stressed the importance of long-term employment gains from increased productivity and the need to minimize any short-term/employment consequences; the need for co-operation and consultation concerning the introduction of measures to increase productivity; and the advantage of making a fair distribution of the fruits of improved productivity among management, labour and consumers.

The JPC promoted technical exchanges between Japan and the United States, educated management about ways of improving productivity, and championed the development of joint consultation as a means of improving labour relations. This last contribution may well have been its most important. Joint consultation now exists in approximately 95 per cent of Japanese firms employing over 300 workers.

Joint consultation represents only one aspect of the Japanese labour relations system, and it is difficult to assess its effect, independent of other aspects, on Japan's remarkable economic performance. Nonetheless, most observers believe that the joint consultation system and the Japan Productivity Centre have made an important contribution to Japan's post-war economic experience, especially in facilitating the process of technological innovation. Lifetime employment and seniority-based wages, however, may be equally important factors.

There are different views about the extent to which Japanese human-resource and labour-relations practices can be implemented with similar success in other countries. At issue is the extent to which Japan's success depends on cultural factors as compared to the nature and structure of the policies themselves. An examination of Japan's industrial relations system in the post-war period suggests that the importance of cultural factors to the Japanese experience may have been overstated. A study team representing the Organisation for Economic Co-operation and Development (OECD), while placing considerable emphasis on cultural differences between Japan and Western countries, nonetheless concluded:

This is not to say that other countries cannot learn from the Japanese experience. In this respect perhaps the most important observation is to appreciate what can be accomplished towards both national prosperity and improvement in workers' conditions by the single minded co-operation of labour and management within the enterprise. Coupled with this, at least in the best Japanese enterprises, is the confidence that important decisions, even if they do not satisfy everyone, will be reached by consensus and are not likely to result from management using a strategically powerful position to achieve something at the expense of the workers, or workers using their power to make management accept a policy which may be detrimental to efficiency.³

A more recent assessment by a Canadian observer concluded:

I am not convinced that some of the worthwhile aspects of the Japanese industrial relations system are so culture-bound that we [Canadians] could not adopt them. My reading of the history of the development of the Japanese system is that many of these features were direct responses to economic problems the Japanese encountered in the fifteen years after World War II. I am sceptical about the claims that the key features of the Japanese labour relations system are based on cultural and spiritual traditions unique to Japan and thus qualitatively different from the situation in the West. Rather, I am persuaded that the various union-management cooperation mechanisms now operating in Japan were adopted by the parties precisely because it was to their advantage to do so. In other words, these devices were the product of the exercise by the parties of rational economic decision-making and organizational behavior analysis which I hope are not unique to the Japanese archipelago.⁴

There are several parallels between the JPC and the recently established Canadian Labour Market and Productivity Centre (CLMPC). The funding of the CLMPC is provided by government, but the institution will be run by representatives of business and labour. At first the union movement was reluctant to participate, especially if the Centre's primary focus was to be on productivity, and some unions remain reluctant. Nevertheless, the CLMPC has survived the difficulties of birth and now has the potential to do much to improve Canadian labour/management relations to the benefit of employers, employees and consumers.

In assessing the possibility of implementing in Canada features of the Japanese labour-relations system, observers should keep two additional considerations in mind. First, an important structural feature of Japan's society is enterprise unionism. Enterprise unions are better suited to focus on concerns and issues at the level of the individual firm. Secondly, joint consultation is only one part of an integrated system. It is unlikely that Canadian employers could use quality-control circles to obtain results such as improved productivity and product quality without also adopting some other features of the Japanese system. These features include a more open and communicative management style; greater attention to employment stability and other aspects of employee well-being; more open sharing of information; and plant-wide bonuses.

Commissioners believe that there is considerable potential for, and great advantage to be gained from, the more widespread use of certain features (such as joint consultation) of the Japanese system in Canada. These features will, of course, need to be adapted to unique aspects of the Canadian setting. Further, we consider that the Canadian Labour Market and Productivity Centre can do much to facilitate these changes.

Gain-Sharing/Compensation Arrangements

Gain-sharing/compensation arrangements tie compensation to the economic performance of a plant, firm or industry. Besides the advantages accruing to

this type of compensation in terms of greater stability of employment and output, gain sharing has also been a means of achieving more effective work incentives, greater employee commitment and involvement, and improved productivity. Some observers see these arrangements as an important part of a package that includes a more open and participatory management style.

Gain-sharing plans are commonly of three types: profit-sharing, productivity-sharing and employee stock-ownership plans. Profit-sharing arrangements may be further divided into current-distribution and deferred-distribution plans. Current-distribution plans offer a cash (or other liquid-asset) payment shortly after profits are determined, while deferred-payment plans involve payment into a trust fund. Distribution usually occurs on retirement or termination of employment. It is possible to arrange combinations of current- and deferred-distribution plans.

Although considerable attention is being devoted at present to gain sharing, plans of this sort are by no means new. In 1887, Procter and Gamble established one of the first profit-sharing plans in the United States. Eastman Kodak followed in 1912, and Sears Roebuck and Company in 1916. The Scanlon Plan, a productivity-sharing arrangement which also emphasizes employee participation, began in the Depression as a means to save financially troubled companies and maintain employee earnings, though it became much more widely known when it was successfully applied to a profitable company in 1945.

Profit sharing is a fairly widespread practice in the United States. At present, there are about 285 000 deferred-distribution plans and approximately 80 000 current-distribution plans. According to the Profit Sharing Research Foundation, 26 per cent of U.S. manufacturing firms with 50 or more employees, over 30 per cent of retailers, and 44 per cent of banks and trust companies operate profit-sharing plans, and the number of these plans is apparently growing rapidly.

In Canada, profit-sharing plans are much less common. Since current-distribution plans need not be registered with Revenue Canada, their number is unknown, but it has been estimated at fewer than 1000.⁵ Revenue Canada estimates that there were 26 000 deferred-profit/sharing plans in operation in December 1982. Many of these are "top hat" plans: that is, they pay benefits only to the principal shareholders of a corporation. According to the Institute of Profit Sharing, there were only about 1500 broadly based profit-sharing plans operating in Canada in 1978.

Productivity-sharing plans involve measuring the productivity of a plant or firm and then sharing the benefits of any productivity gains among participating employees and the firm according to some pre-arranged formula. The three commonly used productivity-sharing plans are Scanlon, Rucker and Improshare. Scanlon and Rucker both involve, in addition to financial incentive, an active committee system through which employees participate in the business. It is estimated that there are 200 Scanlon Plans in the United States and 10 in Canada. Improshare differs from the other two plans in linking employee bonuses to gains in physical output per person-hour, rather than to some measure of dollar savings, and in operating without an employee-participation system. In Canada, this plan is marketed by Woods

Gordon. The Improshare Plan operates in approximately 100 firms in the United States and in 16 firms in Canada.

Most employee stock-ownership plans (ESOPs) involve options that allow employees to make deferred purchases of company stock at current prices or serve as stock-bonus plans. The latter type involves benefits that are distributed in the form of company stock. Most of the interest in ESOPs exists in the United States, where tax incentives, enacted since 1970, have resulted in considerable development of these plans. In Canada, no tax incentives exist for ESOPs, and the extent of employee stock ownership is believed to be small.

Most of the research on the effects of gain-sharing/compensation arrangements consists of case studies. Rarely have quantitative analyses been made which control for other factors, including the more open and participatory management style and labour/management-committee arrangements which often support gain-sharing plans. The available evidence does suggest, however, that these plans are associated with improved productivity and/or profitability, more satisfactory communication between employers and employees, improved labour/management relations, and better employee morale.

Conclusions

Several general conclusions emerge from the preceding consideration. Clearly, there are incentives for employers and employees and their representatives to adopt a more consultative and co-operative mode of interaction. For employees, the potential benefits of such a change are improved job satisfaction; better quality of work; the possibility of higher wages and better employment prospects if the firm's market prospects improve. For employers, benefits take the form of improved productivity and profitability, fewer labour disputes, and the lower rates of employee turnover and absenteeism that come with a better work environment. The existence of these incentives is important, for it implies that competitive pressures and rational decision making will push employers and employees in the direction of increased co-operation and consultation. There are, however, obvious obstacles, as well as benefits, for the movement in that direction is occurring slowly.

There is a need for more continuous contact between labour and management. At present, too much attention is focused on rule making: the periodic negotiation of a collective agreement. Commissioners anticipate considerable benefits from frequent contact between employers and the representatives of employees for the exchange of information and views on issues of common concern, away from the pressures of collective bargaining. The appropriate institutional mechanisms for such consultation will vary according to the circumstances, which sometimes involve neutral third parties. Whatever the circumstances, however, the importance of frequent contact is clear.

A serious obstacle to many of the changes discussed in this section and, therefore, to better use of Canada's human resources, lies in the attitudes of labour and management, and in the roles they have selected for themselves in

our economy. In many instances, management has unilaterally made decisions on matters vitally affecting the interests of employees because these matters fall under "management rights". Yet prior consultation on such matters would undoubtedly improve employer-employee relations significantly. Not all management personnel has accepted the existence of unions; nor, conversely, have all representatives of employees' unions taken a positive stance toward management. Indeed, the latter have often seen their function as one of opposing management, and, in many instances, they have not co-operated in attempts to improve the efficiency of the organization of which they were part.

In this Commission's view, changes in these attitudes, which have persisted over long periods, are unlikely to occur quickly. Nevertheless, the institutional mechanism most likely to succeed in bringing about desirable changes is a bipartite labour/management organization such as the Canadian Labour Market and Productivity Centre.

Notes

1. For more details, see Ontario Department of Labour, "Ontario Initiatives with Respect to Preventive Mediation and Quality of Working Life", in *Labour-Management Co-operation in Canada*, vol. 15, prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985).
2. For details of these mechanisms, see the Commission study by Joseph Weiler, "The Japanese Labour Relations System: Lessons for Canada", in *Labour-Management Co-operation in Canada*, vol. 15, (Toronto: University of Toronto Press, 1985).
3. Organisation for Economic Co-operation and Development, *The Development of Industrial Relations Systems: Some Implications of Japanese Experience* (Paris: OECD, 1977), p. 40.
4. Weiler, "The Japanese Labour Relations System".
5. Donald V. Nightingale, "Gainsharing", presented to the Third John Deutsch Roundtable on Economic Policy, Declining Productivity and Growth: Explanations and Outlook, Kingston, Queen's University, July 11, 1984.

Occupational and Work-Place Health and Safety

The safety of the work-place clearly affects the well-being of virtually all Canadians. Numerous observers have expressed concern about the number of job-related injuries that occur in Canada. In addition, awareness has been growing of the serious nature of the problem of industrial or occupational disease. The increasing use of new chemical and biological agents in the work-place, experiences such as that with the mining and industrial use of asbestos, and advances in medical knowledge have contributed to this new awareness.

Policy makers have responded to these concerns. Indeed, in the past decade, probably no area of Canadian employment law has undergone as much change as that of occupational health and safety. Yet a recent assessment concluded that "the response of the Canadian legal system to the challenges of a hazardous work environment displays serious deficiencies."¹

The Dimensions of the Problem

In 1983, job-related injuries or illnesses killed 761 Canadians and caused the loss of 15 million working days in Canada. There were 952 000 work-injury claims, a figure indicating that roughly one worker in nine was hurt on the job in the course of the year. The costs of these deaths, injuries and illnesses are clearly very high. While the main cost is obviously the suffering of the victim and the victim's family, the employee also loses income, the employer incurs economic costs, and there are costs to society as a whole. To put these figures in perspective, 4.4 million work-days were lost because of work stoppages in 1983. Furthermore, lost working time on account of injuries and illnesses has been increasing, relative to that associated with strikes and lock-outs. Time lost through disabling injury increased from 9.8 million person-days in 1972 to 15.1 million person-days in 1983, an increase of 54 per cent; by contrast, time not worked because of work stoppages fell from 7.75 million person-days to 4.4 million person-days in the same period, a decrease of 44 per cent.

How does the Canadian experience with work-place injuries and illnesses compare with that of other countries? Unfortunately, available data do not permit a satisfactory answer to this important question.²

Table 17-7 shows the Canadian experience with non-disabling and disabling work-place injuries and illnesses between 1972 and 1983. Table 17-8 gives similar information relating to work-place fatalities; their rate has declined significantly from 1972 to 1983. Furthermore, because the decline has occurred in each industry, the decline in the total private sector is not simply the result of changes in the composition of employment. (Rapidly growing industries such as finance and services have low fatality rates, so that as their share of employment increases the overall fatality rate will tend to decline.) In fact, over 90 per cent of the decline in the overall fatality rate is the result of the decline in fatalities in each industry, and less than 10 per cent is because of changing industrial structure.

TABLE 17-7 Workplace Injuries, Illness and Fatalities, Canada, 1972-83

Year	Non-disabling Injuries per 100 Workers	Disabling Injuries per 100 Workers	Total Injuries per 100 Workers	Fatalities per 100 000 Workers
1972	6.88	5.51	12.39	17.4
1973	7.31	5.85	13.16	18.4
1974	7.29	6.03	13.32	18.1
1975	6.86	5.53	12.38	14.7
1976	7.02	5.81	12.83	13.2
1977	7.00	5.46	12.46	11.3
1978	6.95	5.69	12.64	11.9
1979	7.13	6.08	13.21	12.4
1980	7.18	6.29	13.46	12.5
1981	6.66	6.27	12.93	11.4
1982	5.49	5.75	11.24	10.7
1983 ^a	5.26	5.59	10.85	8.7

Source: Canada, Labour Canada, Occupational Safety and Health Branch.

a. Preliminary figures.

As is evident from Table 17-7, the injury and disabling-injury³ rates have been roughly constant over the past 12 years, though there is some suggestion of a decline since 1980. During the period, mechanisms for dealing with problems of occupational health and safety have radically improved in most Canadian jurisdictions. In light of this improvement, the corresponding improvement in work-place statistics, except for the decrease in fatalities, is disappointing. It is possible, however, that the improved mechanisms have caused a larger proportion of accidents to be reported.

Traditionally, the focus of concern, in relation to the safeguarding of Canadians in the work-place, has been on problems of safety rather than of health. In part, this is because safety issues are more easily identified. When a faulty guard-rail causes a worker to fall and break a leg, it is not difficult to establish the cause of the accident. It is harder to establish that the work-place is responsible for a disease with a long latency period, to which a worker's extra-employment activities might also have contributed. For example, lung cancer might develop from exposure to an unknown carcinogen in the work-place or from personal habits such as smoking, or from a combination of both causes. More and more attention is being paid to the causes of industrial disease as interest is attracted by the rapid proliferation of disease-generating substances into the work-place, as well as into the general environment. However, traditional means of dealing with industrial illnesses, such as workers' compensation, may not be the most efficient. For example, fewer than 2 per cent of the claims submitted to the Ontario

TABLE 17-8 Fatality^a Rate^b by Industry/Canada, 1972-1983 (revised)

Year	Agri- culture	Forestry	Fishing	Mining	Manu- facturing	Construc- tion	Transport	Trade	Finance	Service	Public Admin.	All Industries
1972	24.2	136.3	98.8	141.3	15.5	51.7	32.5	6.2	1.8	5.6	13.0	17.4
1973	24.8	157.5	164.8	144.2	14.8	53.1	37.4	6.9	1.6	4.9	19.4	18.4
1974	27.0	131.2	137.5	155.3	17.0	52.1	33.2	8.9	1.7	4.7	11.3	18.1
1975	9.5	124.6	325.3	121.7	12.7	48.6	28.3	5.4	0.7	3.6	14.3	14.7
1976	13.4	116.1	360.0	120.1	11.3	41.8	27.9	4.5	2.3	2.6	8.9	13.2
1977	11.2	91.6	236.8	90.3	10.1	36.6	22.1	5.2	1.9	2.6	7.9	11.3
1978	6.1	130.6	144.2	85.9	10.4	38.3	25.9	4.4	1.2	2.2	12.3	11.9
1979	10.6	155.3	125.0	96.7	8.8	39.6	26.6	4.7	1.0	3.1	10.6	12.4
1980	5.1	114.4	160.0	108.1	8.5	42.2	27.2	5.3	1.2	3.4	6.8	12.5
1981	13.9	96.0	147.1	76.4	8.7	38.9	24.7	4.2	2.1	3.3	10.8	11.4
1982	12.8	121.5	157.9	94.5	10.3	34.9	21.3	4.3	1.1	2.8	8.5	10.7
1983 ^c	13.5	110.5	100.0	62.8	8.1	31.1	16.2	4.0	0.8	2.4	8.1	8.7

Source: Canada, Labour Canada, Occupational Safety and Health Branch.

a. Includes deaths arising out of occupational illnesses, and deaths of workers who were on pension for an earlier disabling injury.

b. Fatality incidence rate equals number of cases per 100 000 workers. Rates calculated using Statistics Canada employment estimates. The rates may be understated because only 80 per cent of workers in the Statistics Canada employment estimates are covered by Workers' Compensation.

c. Preliminary figures.

Workers' Compensation Board in 1980 related to disease. Yet occupational illness accounted for over 12 per cent of fatalities in that year.

Dealing with the Problem

In dealing with occupational health and safety, the central issues are prevention and compensation. Three separate, but interrelated, mechanisms exist for coping with the problem: competitive market forces, the collective bargaining process, and regulation through legislation. What combination of these three mechanisms provides the most socially desirable method for dealing with prevention and for ensuring equitable compensation for victims?

Market Mechanism

If workers are aware of the risk of job-related injury or illness, market forces will cause employers to pay a wage premium for hazardous work. This wage premium performs three key functions: it provides some compensation to the employee for the risk encountered in the work-place; it provides the firm with an incentive to reduce the risk of injury and thereby lower labour costs; and it ensures that the price of the product reflects the risk of injury or illness associated with its production, since a rise in the costs of production raises product prices. Even though the market mechanism may not operate in a fully satisfactory way, these functions are important in the prevention of, and compensation for, work-place injuries and illnesses.

The most fundamental problem with the market mechanism is the lack of complete information about the risks associated with various jobs. Furthermore, employers may not reveal information at their disposal to employees or to governments, as doing so would lead to increased costs of production. These costs would rise either because firms would have to install, and governments monitor, safer production methods, or because companies would have to pay higher wages in order to continue to attract workers.

These realities suggest that the operation of market forces would be improved by increased collection and dissemination of information to all concerned parties. However, there is a more serious problem when disabilities relate to occupational disease. Most occupational diseases are characterized by long incubation periods. With asbestosis, for example, the latency period between exposure to the hazard and manifestation of the disease usually lasts between 20 and 30 years. The problem is compounded by the fact that most diseases are multi-causal in nature, and thus it is impossible to determine the contribution of the work-place, as distinct from the other aspects of the worker's lifestyle, to the appearance of a particular illness.

The dimensions of the information problem are large. Some figures provided by the U.S. Assistant Surgeon General establish that 500 000 chemicals are produced and used in the United States; 3000 new chemicals are developed annually; and each year 500 of the new chemicals are employed in American industry.⁴ Given the proximity and industrial integration of the two countries, Canadian figures must be similar. To determine the exact health consequences of such a large number of chemicals, used separately and

in combination, would be a monumental task for our industrial scientists and doctors even if the necessary resources were available. It is often difficult to extrapolate from tests on animals the likely effects on humans. The few epidemiological studies that have been conducted have found long and variable latency periods for occupational diseases that may differ for different persons.

These informational problems can lead to a divergence between the social costs of production and the costs faced by private producers who operate a hazardous technology. The burden of this discrepancy falls partly on the workers employed in hazardous occupations and partly on society, which must also bear the costs of having some of its members injured and diseased. The workers and society in general are subsidizing the employer and the consumer of the hazardous product. For example, substitute materials to replace asbestos in brake linings and insulation are in use in Europe, yet asbestos is still the predominant material used in North America, despite its known health consequences. If the product price were higher (reflecting the social cost of producing hazardous materials), it would encourage the use of substitutes.

This kind of undesirable situation is especially prevalent in the case of work-place illnesses. A firm may be unlikely to concern itself with diseases that will first manifest themselves 20 years into the future, knowing that the victim will find it impossible to establish liability, given the latency period and the multiple causes of most of these diseases. The worker will fail to receive a sufficient wage premium, given the uncertain state of knowledge surrounding the multitude of chemicals employed in industry today. A firm which is put out of business following a discovery that one of its inputs is lethal, may legally owe the victims nothing in compensation.

Collective Bargaining

Unions and the collective bargaining mechanism may improve occupational health-and-safety standards through a number of channels. Health-and-safety provisions beyond the minimum standards provided by legislation are often negotiated collectively. The union may facilitate the flow of information to the shop floor and can play an important part in informing workers of their rights. Evidence suggests that the union bolsters the efficacy of joint labour/management health-and-safety committees and provides a good support system for the administration and enforcement of safety regulations. Recent empirical studies indicate that compensating wage differentials are higher in union than non-union working environments.

Work-Place Health-and-Safety Regulation

Legislation and the degree of involvement of government agencies in occupational health-and-safety issues vary from province to province. There are two aspects to the legislation: prevention and compensation. Most jurisdictions have been concerned with both these aspects.

The process of industrialization in Canada was initially characterized by a shocking absence of concern for the risks and dangers it inflicted on the workforce. Virtually no attention was paid to the health, safety or sanitary conditions of the work-place. Early Factory Laws forbade the use of child labour, set working-hour limits, established health and sanitation standards, and appointed an inspectorate with powers to enforce the Act's provisions. However, compensation for an injury sustained at the work-place was attainable only through the (common law) tort-liability system, where the onus was on the employee to establish that fault rested with the employer. Employer's Liability Acts, adopted by many provinces between 1886 and 1911, required the employer to insure risks with a private insurance company, but continued to require employees to establish negligence in order to receive compensation. The exception was Quebec which, in 1909, legislated that the worker had the right to no-fault compensation.

Ontario set up a no-fault insurance scheme in 1914, and similar legislation followed in other provinces. In return for assured compensation, employees surrendered the right to sue their employers and to collect full damages for injuries, including pain and suffering. These no-fault insurance schemes are administered by Workers' Compensation Boards (WCBs) and are financed by employer contributions to an accident fund. Fund assessments are a function of the work-injury experience of the industrial rating group to which the employer belongs. Subsequent amendments to these compensation programs have acknowledged that any work-related disease should be compensable. The burden of establishing the cause of the disease, however, is still borne by the victim.

Preventive legislation requires that governments set standards for workplace safety, sanitation, ventilation and health. A factory inspectorate monitors compliance with these standards, usually under the auspices of the Ministry of Labour. Preventive legislation has been amended and expanded by our federal and provincial governments as more information has come to light concerning health-and-safety issues. Industrial Hygiene Divisions were created in the various Health Departments to assist the existing factory inspectorate, and these groups work in co-operation with the WCBs and other organizations involved with workplace health and safety. In the last two decades, concerns regarding the rapid introduction of toxic and carcinogenic chemicals into production processes have necessitated on-going research into the ability of existing legislation and institutions to cope with the more insidious problem of industrial disease. In recent years, several studies and commissions of inquiry have variously identified many of the problems and deficiencies relating to existing protective legislation, the inspectorate, the WCBs, and incentives for employers whose methods of production generate occupational health-and-safety hazards.

Legislation regarding workplace health and safety has changed considerably in the last decade. Saskatchewan has provided a model which many jurisdictions have adopted, though in a modified form. Its legislation, introduced in 1972, emphasizes the contribution of worker participation to the prevention of work-place injuries and illnesses. This model is now often

called the “internal responsibility system”. The system confers three rights on employees:

- The right to be represented by joint labour-management/health-and-safety committees
- The right to refuse hazardous work without penalty
- The right to information, as it becomes available, about the hazards of employment.

The first right is based on the premise that co-operation of employees and employers is vital to reducing work-place injuries. Table 17-9 summarizes the existing provisions relating to occupational health-and-safety matters in each Canadian jurisdiction. As it indicates, a work-place/health-and-safety committee may be established by law in every province except Prince Edward Island and Nova Scotia. Alberta has provisions for committees to be organized on a voluntary basis. In Manitoba and throughout our federal jurisdiction, committees are mandated at the discretion of the Minister of Labour. In other jurisdictions a committee must be formed if the number of persons employed in a work-place exceeds a certain limit.

Such a committee is more likely to be effective if vested with broad powers, such as the responsibility to take an active-part in refusal-to-work cases; the right to accompany an investigating inspector; access to correspondence between the investigating agency and the employer; the right to receive a response from the employer on questions of health and safety; power to shut down unsafe work-places; adequate training in air monitoring and other safety checks; and compensation for worker members for time spent on committee business. These powers, as Table 17-9 shows, are legislated in Saskatchewan and, to varying degrees, in other jurisdictions, as well.

The right to refuse hazardous work is the second element of the internal responsibility system, and all jurisdictions except Prince Edward Island and Nova Scotia provide protection from retaliation when an employee refuses to work on reasonable grounds. (See Table 17-9.) The extent of this protection depends on the interpretation of “reasonable grounds”, which varies across jurisdictions.

The right to refuse unsafe work is fundamental, yet it is important to consider giving employees the means to forestall this action, short of a work stoppage, if they can. Manitoba permits an employee who has a reasonable belief that a hazard may exist to summon a factory inspector to carry out an investigation prior to a work stoppage. This type of provision may avoid a costly work stoppage, allow employees to allay or confirm their fears, and spare employers and employees the inconvenience of processing a claim for time not worked. To deter frivolous complaints, the provision might require that inspections must be initiated by a worker member of the health-and-safety committee.

The third aspect of the internal responsibility system is the right of employees to receive all information relevant to health and safety in the work-place. The right to representation on joint committees and the right to refuse unsafe work become largely ineffective if employees lack access to all

TABLE 17-9 Canadian Occupational Health and Safety Legislation

Issues Addressed by Relevant Statute	Canada	B.C.	Alberta	Sask.	Man.	Ontario	Quebec	N.B.	Nfld.	P.E.I.	N.S.
1. Employer has a duty to provide precautions to ensure health and safety.	*	*	*	*	*	*	*	*	*		
2. Employee must take due care of self and co-workers.	*	*	*	*	*	*	*	*	*		
Joint Committees											
3. Joint committee <i>may</i> be established by law.	*	*	*	*	*	*	*	*	*		
4. Worker and manager must co-chair the committee.	*		*	*	*						
5. Employer must co-operate with committee.				*	*		*		*		
6. Employee must co-operate with committee.				*	*		*		*		
7. Worker member may participate in work-refusal dispute.	*	*		*		*			*		
8. Worker member may accompany inspector.		*	*		*				*		
9. Worker representation may be appointed where no committee exists.					*	*	*		*		
10. Committee members are remunerated for work outside office hours.	*		*	*	*	*	*		*		
Right to Refuse											
11. Protection is provided from retaliation for declining to do unsafe work.	*	*	*	*	*	*	*	*	*		
12. Investigation by workers and management is mandatory following refusal to work.	*	*		*		*	*		*		
13. Worker with reasonable perception of danger is protected even though no hazard exists.	*	*		*	*	*	*		*		
14. Worker may appeal decision that job is safe.					*	*	*		*		

15. Inspectors are empowered to ensure direct adherence to regulations.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16. Inspectors may halt work until compliance.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17. Substitute worker must be informed of earlier refusal.																	
Right to Information																	
18. Employer must provide all information to ensure health and safety.																	
19. Employer must identify all dangerous substances used or emitted.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20. Employer must indicate threat to health on container label.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21. Workers are entitled to see accident and inspection reports.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22. Standard setting must involve public participation.																	
Health Services																	
23. Medical examinations must be provided for miners.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
24. Medical examinations must be provided for those exposed to silicone.																	
25. Medical examinations must be provided for those exposed to asbestos.		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
26. Medical examinations must be provided for those exposed to high level of noise.																	
27. Designated employer must provide health service.																	
28. Worker may be required to undergo examination.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Source: Richard M. Brown, "Canadian Occupational Health and Safety Legislation", *Osgoode Hall Law Journal* 20 (March 1982): 90 118.

Note: Even where a regulation explicitly addresses work-place/health-and-safety issues, the effectiveness or scope of the provision varies from one jurisdiction to another.

available information pertaining to hazards in the work-place. This third right, however, is barely addressed in much of the labour legislation, and the pertinent provisions that do exist are vague and difficult to enforce. The Canadian Centre of Occupational Health and Safety was established by the federal government in 1978, to act as a clearing house for information and to provide an advisory service to employers, labour leaders and other interested parties in this field. From its inception, however, it has provided relatively little information, chiefly because of low funding.

The internal responsibility system might have more success in dealing with safety as distinct from health. Regulations and specification standards that set critical exposure levels might be more successful in preventing health hazards; for example, to restrict the number of asbestos fibres permitted per cubic centimetre of air would effectively reduce a known health hazard. In the future, Canada might integrate aspects of the two systems more thoroughly. Most disease-generating substances must be carefully monitored so that worker exposure does not exceed certain levels. Joint committees could bolster the effectiveness of the health-and-safety legislation by ensuring that affected employees have access to, and understanding of, the standards set, and that they exercise their right to refuse to work if exposure levels go above the legislated limits.

While most jurisdictions have adopted aspects of the internal responsibility system, there are important differences in the approach to work-place health and safety. In British Columbia, occupational health-and-safety programs are consolidated under the Workers' Compensation Board, except in the mining industry. This agency is thus responsible for all aspects of compensation and prevention: standard-setting, inspections and enforcement. In Prince Edward Island, the Workers' Compensation Board is also responsible for all matters pertaining to occupational health and safety. In other jurisdictions, the issues of prevention generally fall to a government ministry. The Alberta system, more than those of the other provinces (except Prince Edward Island and Nova Scotia), relies primarily on self-compliance and self-enforcement. A limited inspectorate exists, but penalties for non-compliances are rarely imposed. But even where a regulation explicitly addresses work-place/health-and-safety issues, the effectiveness of the provision typically varies from one jurisdiction to another.

Addressing the Occupational Health-and-Safety Problem

This Commission believes that employers, employees and policy makers should give increased attention to occupational health and safety. We do not deny that progress has been made in the past decade: the decline in the fatality rate is its most obvious sign. We consider that changes in the legislative framework, especially the increased emphasis on the internal responsibility system, are favourable developments. Nevertheless, the Canadian record still leaves much to be desired. Improvements can be brought about by concerted action of all those directly involved with occupational health and safety: employers, employees and their representatives, governments, and the regulatory agencies.

This Commission was impressed by Du Pont Canada's demonstration that an excellent job-safety record can be achieved when work-place safety is given a very high priority by an entire organization, and when it receives strong emphasis at the highest levels of management. As Du Pont Canada pointed out in its brief to this Commission, its performance, as measured by the frequency of disabling injuries or illnesses, has consistently been better than the industry average by factors of 25 to 35. Table 17-10 shows the disabling-injury rates for the 1977-82 period. The performance on non-disabling injuries is equally impressive.

Du Pont credits its success in preventing injuries to the following main features of their safety program:

- Safety has a top priority and the commitment of the entire organization.
- The objective of preventing injuries and containing identified health risks is a common objective held by management, employees and labour unions, where they are present.
- Safety is a line organization's responsibility. Management at all levels, top to bottom, is held accountable for safety.⁵

This Commission recommends that other organizations attach the same importance to occupational health and safety as do Du Pont Canada and other companies with outstanding safety performance. An excellent safety record may well be profitable for a corporation, in addition to its obvious benefits to society at large. Again, this point was made by Du Pont in its Brief:

Apart from the important humanitarian aspects of a good safety record, accident and injury prevention is good business, and as good business, is reflected on the balance sheet. There is an excellent return on the money spent for safety. There are at least five sound economic reasons for operating safely:

1. *A good safety record helps reduce the cost of insurance and Workers' Compensation.*
2. *Every time we have an accident, we face an array of problems, each with a dollar cost.*

TABLE 17-10 Du Pont Canada Compared to Chemical Industry and All Industry

	(disabling injuries/200 000 exposure hours)					
	1977	1978	1979	1980	1981	1982
Du Pont	0.04	0.04	0.09	0.12	0.08	0.06
Chemical Industry	1.06	1.10	0.88	0.69	0.74	0.64
All Industry	2.48	2.56	2.67	2.79	2.21	2.11

Source: Du Pont Canada Inc., Brief, August 7, 1984, p. 3.

3. *One of the most important benefits of a good safety program is the impact on employee morale, a benefit which is reflected in turn by a lower turnover rate, higher productivity, improved operational efficiencies, and a better product.*
4. *All companies strive for something called "good will". We are sure our safety record has helped us to attract new employees.*
5. *Our customers know when they deal with Du Pont, they deal with a company vitally concerned with safety.*

(Du Pont Canada, Inc., Brief, August 7, 1984, pp. 7-8.)

In addition to these benefits from a superior safety record, Commissioners note another incentive. Unless management begins to give occupational health and safety a higher priority, government regulation in this important area will surely increase. This Commission recommends continued and even increased reliance on the internal responsibility system for work-place safety, rather than increased direct regulation by government. From the victim's point of view, revisions in the allocation of the accident fund to compensate serious injuries more fully, at the expense of small accidents causing temporary disability, might be a more equitable use of limited funds.

This Commission also recommends stronger economic incentives for job safety through more complete experience rating of workers' compensation premiums. The present system is not fully experience rated so that a firm with a particularly poor record passes this liability on to all other firms in the industry group and bears only a fraction of the increased compensation payments for which it is responsible. Experience rating is important for two reasons. Fundamentally, it provides the incentive for employers to prevent work-place accidents. It also ensures that the price of a product reflects the social costs associated with a hazardous work environment. Employers often object that they cannot afford the higher costs associated with more complete experience rating. Ultimately, however, these costs will be reflected in higher prices to the consumers of the product. From society's point of view, it is important that the price of a product reflect the risk associated with its production. If substitute products can be produced at lower risk, the risk reflected in the product price will help consumers to make the appropriate choice.

Joint health-and-safety/labour-management committees are mandated, in one form or another, in nine of eleven Canadian jurisdictions. If the internal responsibility system is to be successful, it is essential that functional authority be vested in these committees. The committees will be effective to only a limited extent if they are restricted to an advisory role. A variety of options is available for increasing the responsibilities of these committees. They could take a more active part in planning and implementing changes and additions in the work-place. Decisions about building specifications and types of machinery have traditionally been considered the prerogative of management, but many work-place hazards are intrinsically linked with modes of production. A safety committee's advice on plant design could be beneficial to both employer and employees.

Committees could also have the power to arbitrate between a worker and the employer in the matter of refusals to do a hazardous job. In addition, a worker-member of a committee should accompany an investigating inspector through the work-place. Members should be trained to monitor the work-place environment so that they can detect any change in the risks to employees. Unions and the joint committees have a substantial responsibility to inform the work-force of the various hazards and rights of workers. The right to information pertaining to the hazardous nature of a job appears to be the least-addressed aspect of the internal responsibility system. Lack of information and asymmetry of information also inhibit the functioning of market forces. In this Commission's view, more specific management-disclosure requirements are needed. Employees and their representatives should also have access to third-party information about the danger of a job, whether the third party is a research agency or a former employee.

The most important contribution the government can make to occupational health and safety is to ensure continual revision of legislation and standards as new evidence comes to light. This involvement is critical in the area of industrial disease, given that new and potentially lethal chemicals and materials are being introduced daily in the work-place. Whereas other mechanisms may be more useful for dealing with industrial safety, occupational health problems can probably be controlled most effectively by the imposition of standards. These standards must take into account economic, as well as technical, feasibility. This requirement calls for the introduction of more general studies on the economic effects or cost benefits of proposed legislation. Canada can learn from the U.S. experience in accumulating many unnecessary, bureaucratic, legal and administrative costs. The Canadian Centre for Occupational Health and Safety might be the agency to develop these health standards most practicably, supported by direct input from the provincial agencies. The Centre would require adequate funding for this purpose and the other duties it was mandated to perform, such as the collection and dissemination of national statistics.

The long development periods and multiple causes of many diseases pose an insoluble problem for Workers' Compensation Boards, which attempt to compensate workers for illnesses or injuries sustained "out of and in the course of employment". The present system is unable to accommodate the fact that many seriously disabling diseases have multiple causes. Various cancers, for example, are the product of many factors operating at different stages in the development of the disease. Epidemiological studies and evidence of exposure may demonstrate the presence of carcinogens in the work-place, but they fail to determine whether a particular employee has acquired the disease as a result of employment conditions or as a consequence of personal habits or a toxic environment. "The statutory hurdle of establishing that the workplace was the cause of a disease is equally as onerous as was the common law requirement of proof that the employer's fault produced an accident."⁶ The latter obligation was removed by the introduction of workers' compensation/no-fault insurance, and the problem of compensating victims of industrial disease may not be resolved without

introducing a general social insurance/disability scheme which would compensate victims irrespective of source of injury. Certainly, proposed modifications of the current system of compensation do little to increase the ability of the WCBs to determine which disease-related claims are legitimately occupational in nature.

One solution to this problem would be to expand substantially the current disability benefits provided under the Canada Pension Plan, as proposed, for example, in the federal government's 1982 discussion paper *Better Pensions for Canadians*.⁷ An alternative solution would be to absorb the existing workers' compensation system into a comprehensive disability-insurance scheme, as one author has proposed in his examination of the Ontario system.⁸ Although Commissioners have not considered these options in detail, we recommend that the federal and provincial governments examine these and other options for dealing with industrial disease.

The past decade has seen considerable change in public policy relating to occupational health and safety. In addition, there is considerable diversity in the policy initiatives taken in various jurisdictions. Yet virtually nothing is known about the effects of these policy changes, or which of the various approaches has proved most successful. This situation is likely to continue unless more effort is devoted to the compilation of statistics which would facilitate interprovincial and international comparisons and other research. This Commission regards the available data as inadequate, given the importance to all Canadians of occupational health and safety.

Recommendations

Commissioners recommend the following courses of action to improve occupational health and safety in Canada:

- Greater emphasis on work-place health and safety at higher levels of corporate management
- Stronger economic incentives to increase the safety of the work-place through more complete experience rating of workers' compensation premiums
- Continued reliance on, and strengthening of, the internal responsibility system
- Recognition that workers' compensation cannot adequately deal with industrial disease, and that alternative mechanisms are needed
- Recognition that occupational health and safety is a matter of national concern, and that more adequate data and research are required.

Notes

1. Richard M. Brown, "Canadian Occupational Health and Safety Legislation", *Osgoode Hall Law Journal* 20 (March 1982), p. 118.
2. Statistics from the International Labour Organisation (ILO), *Yearbook of Labour Statistics*, suggest that Canada's work-place/injury rate (number of reported injuries in proportion to total employment) is high by international standards. A comparison of eight countries for which injury statistics are reported over the

1976-81 period shows Canada with the highest injury rate (approximately 1 worker in 9 injured on average), followed by France (1 in 10), Switzerland (1 in 13), West Germany (1 in 13), United States (1 in 17), Sweden (1 in 35), Netherlands (1 in 50), and Norway (1 in 100). These data should, however, be used with extreme care. The minimum duration of incapacity to which an accident must give rise in order to be included in the statistics varies widely from one country to another. This factor is important because the number of minor accidents is large. In addition, there are other important differences in the nature of the sources, in their scope and in methods of compiling or reporting statistics on work-place injuries and illness. Thus it is possible that the high injury rate in Canada reflects differences in measurement and reporting rather than a more dangerous work-place.

Canada also fares poorly in international comparisons of work-place fatalities. West Germany has the worst record for fatalities, with approximately 15 to 18 fatalities per 100 000 workers over the 1976-81 period, followed by Canada (9 to 11), Switzerland (7 to 12), France (7 to 9), Norway (5 to 9), Japan (5 to 6), the United States (4 to 5), Sweden (3 to 4), and the Netherlands (1 to 3). Again, however, these statistics should be treated very cautiously because of differences in reporting and classification of fatalities across countries.

3. Disabling injuries are defined as injuries which require absence from work for at least one day in addition to the day of the injury, or which result in dismemberment or permanent impairment of a body function. Non-disabling injuries are minor injuries which do not require missing a full day of work.
4. See Pran Manga, Robert Broyles, and Gil Reschenthaler, *Occupational Health and Safety: Issues and Alternatives*, Technical Report No. 6 (Ottawa: Economic Council of Canada, 1981), p. 41.
5. Du Pont Canada Inc., Brief, August 7, 1984, p. 11.
6. Paul C. Weiler, *Protecting the Worker from Disability: Challenges for the Eighties* (Toronto: Ontario Ministry of Labour, 1983), p. 55.
7. Canada, Health and Welfare Canada and Finance Canada, *Better Pensions for Canadians* (Ottawa: Minister of Supply and Services Canada, 1982).
8. Weiler, *Protecting the Worker from Disability*. In order to provide incentives for prevention, the system would be partially financed by a levy on employers, based on the estimated contribution to the cost of the disability scheme.



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Education and Training

Introduction

In 1982, Canadians spent nearly 8 per cent of our gross national product (GNP) on education and institutional training programs. In view of the scope of these programs, their importance to Canada's future and, most of all, their importance to individual Canadians, we Commissioners believe that our work would be incomplete if we did not consider the future of education and training programs in Canada. We must acknowledge, at the outset, the difficulties faced in dealing with these programs. Given the importance of this sector to Canada's future, relevant data and analyses are very scarce. Beyond figures that record expenditures and enrolments, little information about programs or students is available at the national level. Curricula vary from province to province, and small attempt has been made to define interprovincial differences or to relate the efficacy of the programs to varying circumstances. A few detailed surveys of post-secondary students have been conducted on the basis of national samples, and these provide essential information for policy makers, but they are not complemented at the primary or secondary levels of education. Educational institutions and local boards continually conduct evaluations of courses, curricula and programs, but little of this material is aggregated at the national level. As a result, Commissioners must develop proposals based on far less information than we would wish.

Several issues tend to dominate discussion of the future of Canadian educational and training programs. One of the most pervasive of these provides the ground for debate between two groups which might be described as "generalists" and "specialists". The generalists hold that the primary, although not the exclusive, function of the educational system is to sharpen the individual's proficiency in critical reasoning, in problem solving, and in learning. They therefore maintain that the core of the curriculum should be a firm grounding in English and French, Mathematics, Science, Social Studies

and, possibly, basic Computer Science. This view was well expressed by the Toronto Board of Education in its submission to this Commission:

What does seem patently clear is that the school's role cannot and should not be limited to skill training for the labour force. Students must be provided with opportunities that enable them to be active participants in an educational process which increasingly must become life-long . . . Schools must bear a major responsibility for the development of language and communication skills, for the exploration and development of our culture and for encouraging our young people to become compassionate, conserving and critical members of a democratic society. (Toronto Board of Education, Brief, November 29, 1983, p. 1.)

In contrast to the generalists, the specialists hold that the labour market is beginning to require skills that are fairly specific and technical. They argue, therefore, that educationists should place more emphasis on practical preparation for specific occupations or clusters of occupations. For instance, several representations to this Commission, stressed the need for Canada's educational system to emphasize technical training, especially in skill areas affected by the micro-electronics "revolution". In addition, a recent study, conducted by the Ontario Institute for Studies in Education (OISE) found that 58 per cent of respondents thought that Canadian universities should place more emphasis on job-oriented programs.¹

These positions need not, however, be considered as totally opposed. As one intervenor told this Commission:

Of course the two points of view may be not irreconcilable: To raise the question of training or of vocational as opposed to basic training with generalists or specialists is [to start] a pointless argument. Sound basic training is a necessity for enabling anyone to profit from training in a special field. Similarly, worthwhile vocational training is only possible to the extent that its recipient has a good general grounding. If there is an important objective to reach, it is that of developing these concepts of training and education that complement each other. (Monique Simard, Transcript, Montreal, May 30, 1984 [vol. 1], p. 186.)

Other issues are also important. Not least of these is the question of how much to spend for education and training programs. We Commissioners were often told in the course of our hearings that Canada spends too little on post-secondary education and job-related training. The opposite view, that Canada overspends, was expressed less often, but higher-education programs do tend to be offered as a popular target for government restraint.

Closely related to the problem of establishing budgets for education and training is that of determining the appropriate balance between these two elements. Do Canadians, as is often alleged, spend too much for higher education and too little for vocationally-oriented training programs? Do we spend too much on institutional programs compared to on-the-job training? How might we accommodate, within our major post-secondary institutions, the need to provide programs directly oriented to economic development, while retaining another historic function of our universities as major repositories of culture and the primary centres of pure research in our society?

Another major issue—many would say the primary issue—is that of standards of education. Are Canadian educational standards declining? Are we failing our students and ourselves by not insisting on excellence both in the performance of institutions and in the performance of students? If there is a decline in standards, does it apply “across the board”? Or is it more severe in some parts of our system than in others?

Finally, among the foremost concerns which this Commission wishes to consider is flexibility. Canada’s colleges and universities and, to a lesser degree, its primary and secondary schools are often accused of failure to adapt to present requirements. The accusation raises a number of questions: Is this charge true? If it is even partially true, can Canadians deal with it without abrogating institutional autonomy? How is our society to handle the training needs of students who leave school early and of mature persons who wish to return to training or education programs later in life? In the pages that follow, we shall turn our attention to all of these important questions.

Note

1. D.W. Livingstone and D.J. Hart, *Public Attitudes Toward Education in Ontario* (Toronto: Ontario Institute for Studies in Education, 1981), p. 31.

Primary and Secondary Education

We Canadians have a tendency, in considering education and training at the national level, to ignore primary and secondary education. This is understandable, given our federal government's heavy financial participation in post-secondary education; the very considerable attention paid to primary and secondary education at the local and provincial levels; the lack of national aggregate data; and, of course, the fact that we have always considered primary and secondary education to lie entirely within provincial jurisdiction. In view of the importance of these levels of education to Canada's future, however, some consideration of them is called for here.

Indeed, it is often suggested that primary and secondary schooling are more important to our nation's future than are higher levels of education. This Commission believes that all three categories are important and thus, although we have devoted the bulk of our analysis to post-secondary education and training, we also wish to make some comments on lower levels of education. The fundamental reason for paying careful attention to educational programs at the primary and secondary levels is simply that for the majority of Canadians, formal education and training does not extend beyond the latter level. Only about one-third of Canadians ever study in post-secondary institutions. Tests of achievement in core subjects and skills taught at primary and secondary levels (mathematics, reading, vocabulary and language expression, abstract reasoning and creativity) forecast future earnings more accurately than do other forms of assessment that measure personal attributes. Tests administered early in a student's academic career appear to predict occupational and educational attainment as accurately as later testing. Cost/benefit analyses generally attribute higher net benefits to additional dollars spent on primary and secondary education than to those spent on post-secondary education. These data suggest that whether Canada's policy makers see formal education as intended primarily to help people to adjust to the effects of technological or other types of change, or as a means of creating a generally more literate and adaptable population, they should direct particular attention to the "quality" of basic education provided in our primary and secondary schools.

Until a few years ago, Canadian educators seemed to be moving towards a more "liberal" education: a wider choice of courses, a greater flexibility of curricula, new teaching methods and de-emphasis of formal exams were the norm. This Commission's hearings would suggest that the results of that trend are now widely perceived as undesirable. However, while Canadians seem to favour a more structured educational format, they also show considerable ambivalence about whether curricular changes should emphasize a "back-to-basics" approach or place greater emphasis on direct preparation for the labour force. Thus 59 per cent of a sample of Canadians polled in 1983 opted for a "back-to-basics" program, while 73 per cent of respondents polled in another survey, conducted by the same firm in the same year, agreed that "our education system places too much emphasis on purely academic education."¹

While the popular perception, well represented to this Commission in briefs and hearings as well as through popular surveys, is that standards have deteriorated in our schools, the evidence does not unequivocally support this view. One major survey of these studies² found that student performance had improved almost as often as it had declined. The authors also reported that chief educational officers surveyed across the country believed that standards had risen in the sciences, remained almost steady in mathematics, and declined somewhat in literature and language. Little evidence exists, however, based on nation-wide testing in Canada. In the United States, widely used scholastic aptitude tests have demonstrated a long decline in the achievement levels between 1960 and 1980; there has been some recovery during the last four years, but standards have not yet risen to pre-1960 levels.

Concern with the quality of primary and secondary education is hardly new. One historian of Canadian education notes that even prior to 1960:

What the delegates did discuss at conference after conference was the threat of declining academic standards... As the continuing debate at the NCCU [National Conference of Canadian Universities] meetings during these decades illustrated, there were wide-spread complaints about the inadequate preparation of matriculants in all subjects... The main bone of contention was the poor preparation of the students entering universities, which was attributed to poor teaching in the elementary and secondary schools, and, by extension, to the failure of the universities to assume any responsibility for the adequate preparation of the teachers in these schools.³

Commissioners wish to express particular concern about the educational curricula often followed by female students, particularly at the secondary level. For various reasons, these students appear to take fewer courses in science and mathematics than do their male counterparts. This situation reinforces the tendency for women to be under-represented in technology-based jobs. To rectify it may require special attention, but that requirement does not necessarily translate into an extensive range of government programs. Changing student, parental and societal attitudes, combined with attention by teachers and counsellors to achieving a better female-male balance in these areas of study, may be more appropriate responses.

For well-established reasons both of tradition and of jurisdiction, the federal government has not intervened in primary and secondary education, except to mount relatively small official-language programs, to provide supplementary or remedial education as part of job-training programs and to support English as a Second Language and Heritage Language programs. Federal equalization payments can also be viewed as providing indirect support for all levels of education in poorer provinces; indeed, the original justification of equalization payments was based, in part, on the importance of providing adequate standards of education across Canada.

Commissioners do not believe that the federal government should become more deeply involved in primary and secondary education, but we are convinced, in view of general public concern about educational standards and quality, that there is need for a national body to develop achievement-testing

procedures and to monitor standards of achievement across Canada. Nowhere does this need appear more plainly than in this Commission's inability to find reliable comparative data, kept over time and across provinces, by which to compare educational attainment and standards.

Our situation with respect to this lack contrasts sharply with that of the United States. There the federal Department of Education conducts research itself and sponsors such semi-autonomous institutions as the National Institute of Education. There have been numerous national task forces on education, and private foundations regularly sponsor independent studies. In particular, studies which trace student performance over time and in different teaching situations are readily available in the United States and virtually non-existent in Canada.

The national body we recommend for Canada should consist of some members who have direct experience in education and some who have had no direct connection with the sector. It must represent both Canada's charter-language groups, and it must be sensitive to the importance of formal education in maintaining the cultural integrity of French Canada. It should have a substantial independent research capacity, and it should report publicly, preferably each year. It must have a sufficiently large permanent staff to provide continuity in its operations, but it would also benefit from secondment of education officials employed by provincial and local governments. Although it could be formed under the aegis of the Council of Ministers of Education, its credibility might be enhanced if it were not directly financed by government. In the United States, private foundations have supported such bodies, and a similar funding base would be ideal in Canada. Indeed, by providing active financial and planning support for such an institution, the private sector could demonstrate in an admirable way its concrete interest in matters of educational policy. Alternatively, since it has typically been quite difficult in Canada to obtain financing for public policy-research institutions from the private sector, an endowment fund provided by the provincial and federal governments might be an appropriate way to guarantee such a body a suitable degree of independence. Commissioners do emphasize, however, our preference for private sector funding.

Notes

1. Information supplied by Decima Research Ltd., Toronto.
2. See Verner R. Nyberg and Brigitte Lee, *Evaluating Academic Achievement in the Last Three Years of Secondary School in Canada* (Toronto: Canadian Education Association, 1978).
3. Robin S. Harris, *A History of Higher Education in Canada 1663-1960* (Toronto: University of Toronto Press, 1976), pp. 376, 377, 384.

Post-Secondary Education

While jurisdiction over post-secondary education (PSE) rests with the provinces, and jurisdiction over occupational training is shared by the provincial and federal governments, total federal expenditures for post-secondary education and occupational training were approximately \$8 billion for 1984-85. In the same period, 330 000 students were in full-time attendance at Canadian community colleges, 462 000 students attended university on a full-time basis and 283 000 on a part-time basis.

There is a variety of reasons to account for the broad support that Canadian governments have given post-secondary education and training. They have supported training programs in order to provide employers with a skilled labour force and would-be employees with the skills necessary to participate to the fullest extent possible in our economy. The objects of supporting post-secondary education are more diffuse; they involve teaching, research, the maintenance of cultural values, and the provision to the community of a broad range of information and advisory services. The weight which different observers attach to the achievement of each of these objectives will vary, but most would agree that our universities should serve them all, and that our community colleges should concern themselves primarily with teaching and training.

Since education is an acknowledged area of provincial responsibility, the heavy federal financial involvement in post-secondary education may appear anomalous. It was not so viewed, however, by most intervenors who appeared before this Commission, for the great majority of those who spoke on this subject believed that there was a national role to be played in post-secondary education, and that in consequence, the federal government should be involved.

The reasons for this belief were many. Some intervenors held that the tendency of the Canadian labour force to cross provincial boundaries made higher education a national concern. Some noted that the federal government's overall responsibility for economic management would demand that it play a greater role in education and training in the future as the nature of our economic base becomes significantly more knowledge intensive. Others considered that the out-of-province benefits devolving from the research and cultural activities of Canada's universities made federal involvement imperative. Some were concerned that smaller provinces would be unable to provide appropriate levels of services without federal help. Still others expressed the view that students should be free to attend any Canadian institution of higher learning they might wish and voiced the concern that fee differentiation for out-of-province students might preclude this possibility if the federal government were not to be involved. These views were expressed by people from all provinces and from both major language communities. Where there was opposition to the federal presence, it seldom precluded federal participation, but rather advocated that the federal role be restricted to unconditional financial support.

This Commission agrees with virtually all of these reasons for federal involvement and firmly believes that there is a major part for the Government

of Canada to take in supporting post-secondary education and training. While Commissioners would certainly stop short of suggesting that universities should become national institutions under the jurisdiction of the Government of Canada, as some of the intervenors who appeared before us proposed, we do believe that it is important for our national government to maintain its presence in post-secondary education, and we wish to review the form that that involvement should take.

Prior to 1951, our federal government shared in the cost of some occupational training delivered by provinces and provided direct support for education of veterans. From 1951 to 1967, the Government of Canada provided our universities with a flat subsidy per student. Grants were proportionate to enrolment figures and were delivered directly to the institutions through the agency of an inter-university granting council; they were not channelled through provincial governments. In contrast, between 1968 and 1977, the federal government transferred to provincial governments 50 per cent of the operating costs of post-secondary educational institutions or, in 1968, \$15 per capita, escalated. From 1972-73 onward, it limited year-over-year increases in the contribution rate to 15 per cent. The actual disbursement of funds to Canadian universities was then handled by the provincial governments.

In 1977, under the Federal-Provincial Fiscal Arrangements and Established Programs Financing (EPF) Act, federal support was once more radically transformed, taking on, essentially, its present form. In place of open-ended grants based on institutional expenditures, provincial governments were to receive block payments based on provincial populations and made up of cash and tax-point transfers. These payments were ostensibly intended to support post-secondary education. They were, however, only distantly related to actual levels of post-secondary spending in each province. Thus, although the size of the total national transfer was originally related to the overall operating costs of post-secondary institutions in 1975-76, provinces were not required to spend any particular amounts on post-secondary education in order to qualify for the federal grant. Moreover, the entitlement was increased annually by an amount related to increases in population and gross national product, rather than to PSE operating costs.

Whether in consequence of the EPF Act transfer mechanism or not, the years since 1977 have seen a decline in constant dollar-per-student expenditures on post-secondary education in almost all provinces; the most extreme examples of this trend have occurred, over the long term, in Ontario and, very recently, in British Columbia. It should be noted, however, that because of the very large numbers of post-secondary students in Ontario, that province's per capita expenditures on PSE are relatively high, in spite of its low per-student transfers. Overall, federal cash and tax-point transfers, nominally in support of PSE, made up 70 per cent of provincial government operating grants to universities and colleges in 1977-78, and 80 per cent in 1984-85. In five provinces, Newfoundland, Prince Edward Island, New Brunswick, Manitoba and British Columbia, the nominal federal transfer for PSE is actually greater than the provincial operating-grant transfer to institutions.

This situation has led to accusations that provincial governments have been diverting to other uses large sums that Parliament intended to be spent on PSE. As a result, many people, both inside and outside post-secondary institutions have expressed concern that the EPF mechanism may not offer the most appropriate means of providing future federal support for post-secondary education.

Provincial governments have developed a wide variety of systems and procedures for disbursing funds to institutions of higher education. Most university funding therefore tends to be discretionary: provinces distribute whatever funds they can “afford” on the basis of relative historical levels of support for different institutions, modified somewhat to reflect recent changes in enrolment. In this situation, the tuition fees paid by students often represent almost the only financial incentive for universities to respond to changes in enrolment demand. Even this incentive is limited, however, because provincial governments exercise heavy control over fees, which, in any case, cover only about 15 per cent, on average, of the universities’ general operating expenditures. Under these circumstances, Canadians might well anticipate some lack of response to enrolment demand at the post-secondary level.

Yet in spite of this situation, some fairly significant changes in the composition of enrolment at Canada’s universities and colleges have occurred over the last two decades. During those years, there has been a steady rise in part-time enrolment. Thus, between 1962–63 and the present, the proportion of part-time students has risen from 23.7 per cent of total post-secondary enrolment to 37.6 per cent. Over the early and mid-1960s, enrolment in both Arts and Sciences increased considerably, relative to that in other faculties. After 1970, however, the proportion of students in Arts faculties began a decline which has continued to the present. In 1970–71, 14.6 per cent of Canadian undergraduates were enrolled in Humanities programs, a figure which declined to 8.5 per cent by 1982–83. In 1965–66, almost 32 per cent of undergraduate enrolments were in Faculties of Education. While the absolute numbers of students enrolled in these programs has not declined, these faculties did not share in the remarkable growth of the universities that occurred in the 1970s. Thus, by 1983–84, only 12.9 per cent of undergraduate enrolments were in Education. Since the early 1970s, undergraduate enrolment in Science has risen only from 10 to 11 per cent in proportion to overall enrolments, while Business Administration has greatly increased its share of total registration. In 1983–84, for example, 15.7 per cent of full-time undergraduates were registered in Business or Commerce programs, while in 1970–71, the corresponding figure was just 8.3 per cent. Commissioners find this increase encouraging.

Before the recession of 1981–83, many Canadians believed that enrolments in Engineering and Computer Science were not growing quickly enough to meet the needs of our economy. Indeed, intervenors have argued before this Commission that Canadians should still be concerned about this problem. Between 1977 and 1981, however, the number of Canada’s engineering graduates rose at an average annual rate of 9.1 per cent. In those same years, overall university-enrolment increases averaged about 1 per cent per year.

It would seem from these figures that in spite of funding rigidities and public perceptions, the universities were at least somewhat responsive to broad changes in enrolment demand during the 1960s and 1970s. Whether they were sufficiently responsive, however, and whether the quality of instruction rose along with enrolment numbers are harder questions to answer. It is even more difficult to evaluate the responsiveness of community colleges, where reliable data are even scarcer.

Whether or not the performance and adaptability of Canada's post-secondary sector has been adequate during the past two decades, we must realize that much of what it achieved was accomplished while the system was expanding. If our PSE systems contract because enrolment decreases or funding is restricted, their future adaptability is likely to be considerably more limited. Thus the potential effect of enrolment trends on the adaptability and, indeed, on the very nature of our post-secondary institutions is both very important and potentially difficult to deal with.

Currently, 86 per cent of Canada's full-time undergraduates are 18 to 24 years of age. That "source population" for our post-secondary institutions peaked in 1982-83; it will decline steadily until 1997 and remain constant thereafter. Whether enrolment will also decline will depend on participation rates, particularly of 18- to 24-year-olds. Twenty-four per cent of Canadians in that age group now attend post-secondary institutions, and 13.5 per cent of these students are studying at universities. Only the United States has a higher rate of university attendance, at 18.5 per cent.

By the mid-1990s, Canada's 18- to 24-year age group will number 2.6 million persons, representing a reduction from the present 3.3 million. If we assume a constant PSE participation rate, there would then be approximately 168 000 fewer full-time post-secondary students than the current total of 792 000. About a 6 per cent increase in participation rates or a compensating increase in enrolment of older age groups would be required to maintain a constant student population.

There are several important caveats to be noted here. First, assumptions are built into any enrolment projections. It is quite possible that enrolment rates of over-24-year-olds will increase. Indeed, Commissioners hope that they will, since we believe that lifetime learning is highly important. Female participation rates, which already come very close to equalling those of males, may continue to rise. Since children of parents with degrees are about three times as likely to enter university as children of parents without degrees, total participation rates for 18- to 24-year-olds may increase as the children of the growing numbers of parents with post-secondary education reach the 18- to 24-year age group. Unless some of these possibilities actually occur, however, enrolments will decline. In any event, given the very great importance of enrolment-trend data for post-secondary educational planning, it will be essential to maintain a sound data base and substantial analytical capacity.

Secondly, adaptability has more to do with the resources available to the education sector and with the flexibility of the institutional base than with the total number of students. There is no reason why the overall resources available to educational institutions must be directly related to that number. Indeed, in the past few years, funding increases have not kept pace with

growing student enrolment, perhaps because of the assumption that registration will decline, and that there should not, therefore, be a major build-up of resources in the sector.

The issue of whether or not the Canadian PSE and training sector is currently "underfunded" received a lively airing in this Commission's hearings. To assess whether government's current overall scale of support for education and training is the "right" size is an extremely difficult policy problem, one, indeed, which can have no definite solution. While some features of the Canadian tax system discourage investment in human capital, and some students and trainees still have difficulty in financing their studies, there are, in total, very large subsidies supporting education and institutional training. It is even conceivable that the overall result of government action in this sector is to encourage too much investment in education and training relative to that in physical plant.¹

Comparison with other countries provides no definite answer. Canada spends on education close to the average amount spent by other members of the Organisation for Economic Co-operation and Development (OECD): OECD figures indicate that our expenditures in 1981 represented 6.2 per cent of gross domestic product (GDP), compared to the OECD average of 6.1 per cent.² While Canada ranked eighth out of ten in 1960, well-above-average growth rates from 1965 to 1970 brought our standing to fifth out of twelve in 1975. The Scandinavian countries have consistently ranked as top spenders, while Germany and Japan have lagged behind; the United States spends slightly less than Canada. Expenditures dropped in all major OECD countries, except Italy and Japan, between 1975 and 1981, chiefly, apparently, in response to declining enrolments.

The suggestion is often put forward that greatly increased expenditures on education and training will be necessary in order to help Canadians adapt to the labour-force implications of new technologies. There is considerable uncertainty about the probable employment effects of the new technology likely to be introduced over the next ten or 15 years. Thus, according to one school of thought, the occupations and industries where the new technology will be most heavily applied include almost all office work, much manufacturing, financial services, communications and, perhaps, wholesale and retail trade. Employment may shift from these areas to others such as personal services (the provision of restaurant meals, for example), health care (because of the eventually higher proportion of the elderly in our population), construction, and leisure industries. While some of these areas of employment may require a fairly high level of education, it is far from obvious that the *average* educational requirement is likely to be higher than in the past. In fact, it may well be lower.

A further indicator of the uncertainties to be dealt with in this field is to be found in the implications of a recent Canada Employment and Immigration Commission (CEIC) projection of medium-term labour requirements. Those projections suggest that workers in occupations likely to experience the highest employment-growth rates include analysts of organizations and methods, chemists, physicists, architects, several types of engineers, advertising salespersons, and business-service salespersons. Such occupations

start from a relatively small employment base, however. For example, in 1983, only 9000 Canadians were employed as organization-and-methods analysts, and only 4700 as business-service salespersons. Thus high rates of growth do not necessarily produce many new jobs, and they do not necessarily indicate requirements for much more advanced levels of higher education. The largest absolute numbers of new job openings are likely to occur in occupations such as secretarial and stenographic services, bookkeeping, truck driving, janitorial services, public dining services or nursing. Similarly, while there will certainly be significant shifts in Canada's labour force, engendered by the increasingly competitive international environment, it is highly uncertain whether their specific effects on the requirements for particular kinds of education can be predicted.

Very considerable uncertainties confront predictions of specific educational requirements, and many, if not most, Canadians will have to undertake considerable retraining during their lives. These realities lead Commissioners to emphasize the value of a solid general education—of learning how to learn—so that Canadians may be well equipped to adapt quickly and efficiently to the changing realities of the labour market. With this consideration in mind and with full awareness of the continuing need for very considerable levels of specialized training, Commissioners were deeply concerned to hear so many intervenors state that under current levels of funding, PSE institutions are experiencing very great difficulty in maintaining the general quality of their teaching, the quality of research, and the viability of their physical plants. Provincial governments, as we noted earlier, have been very reluctant to increase the funding of these institutions, because of the current need for restraint and the belief that enrolments are likely to decline in the future. Moreover, all levels of government have tended to take the position that the total amounts of funding for all types of education and training should be either fixed or reduced in proportion to GNP. This view has meant that spending increases in one part of the sector have had to be financed from decreases in another part, at the same time that the proportion of GNP devoted to education is static or declining. While this policy is understandable, it is not necessarily desirable. There are many benefits to be gained from a strong post-secondary educational system, and Canadians did, in the 1960s, make a major national effort to build up a system of very high quality. In retrospect, that decision still seems to have been correct, and it may now be very short-sighted to allow that system to decay to the point where it becomes second-rate.

Most of this consideration of the post-secondary sector has focused on changes that have occurred over the past ten to 20 years, but in one respect, change has been lacking during this period. A much larger proportion of young people from high-income families than from low-income families has always participated in post-secondary education. In 1974, for example, Statistics Canada found that "55 per cent of children from well-off families (annual income over \$25 000) attended post-secondary institutions while only 11.6 per cent of children over 18 from poor families (*i.e.*, income under \$5000) did so."³ A more recent study of the distribution of benefits from the Ontario university system concluded that:

The principal net gainers from the university system are the middle- and upper-income groups at the expense of the lower-income groups. In this sense the university system is a large public expenditure program in which the relatively poor groups tend to subsidize the relatively rich.⁴

While the final data were not available at the time this Report was written, it is this Commission's understanding that the 1983 Student Survey by the Secretary of State found that essentially the same distributional pattern persists in the 1980s. This finding was further corroborated in the brief presented to us by the Association of Universities and Colleges of Canada:

Much remains to be accomplished if members of all socio-economic strata in our society are to enjoy equal opportunity of access to higher education. Despite the federal and provincial programs of loans and grants for needy students, members of the lower socio-economic groups are still under-represented in universities. Recent reports indicate that economic considerations are only one of many factors influencing a student's decision to undertake work at the postsecondary level. The home environment, place of residence, ethnic group membership and gender all are significant factors which affect a person's likelihood of attending university.

(Association of Universities and Colleges of Canada, Brief, November 1, 1983, p. 6.)

Increasing the funding of training programs, which are more frequently used by lower-income Canadians, might compensate to some extent, for this situation. The provision of higher levels of support to low-income Canadians who wish to attend post-secondary institutions might also help to rectify the present imbalance. It would not, however, in Commissioners' opinion, be appropriate to increase funding for training programs by reallocating money from universities. Moreover, family-socialization patterns will remain a significant barrier to post-secondary education for many low-income students, regardless of the financial support to which they may have access.

Finally, while Commissioners were concerned to hear of the difficulties created for the PSE sector by low levels of funding, we were also concerned that representatives of the sector itself tended to deal less with how they could help Canadians adjust to a changing world than with how badly they needed more money. Representatives of the sector devoted considerably less attention than we had hoped to suggesting how that money might be spent to solve the very real problems of the sector. Any innovative ideas we did hear about post-secondary education tended to come from outside the sector. Thus we feel obliged to observe that significant problems seem to lie within the sector itself. The combination of faculty unions, the tendency to draw administrators from within the institutions, an aging and tenured faculty, uncertainty about the role of PSE institutions in society, all combined with a somewhat defensive attitude toward the *status quo* does not seem to us to provide a healthy situation. We were disappointed not to hear more creative ideas about its own future from a sector which must be at the creative forefront of society.

Commissioners are well aware from studying public-opinion data that Canadians generally support post-secondary education and do not believe that its programs, facilities and funding should be cut back. We suspect, however,

on the basis of our hearings, that the person-in-the-street would wish to see our PSE sector undergo more significant reforms than would the incumbents of the institutions themselves. For this reason, we have considered a broad range of reform options for the sector, and we have analysed in some detail relatively radical reform possibilities.

Reform Options for post-Secondary Education

A good number of the many concerns about post-secondary education expressed to this Commission cannot be rigorously evaluated; others are not properly the concern of the federal government. However, the financing mechanisms used by the federal government to support post-secondary institutions have an important effect on the actual operation of the sector and constitute the chief means by which federal influence may be exercised. There are four major interrelated sets of issues with which PSE-funding mechanisms may deal: levels of funding, quality of the system, flexibility and adaptability, and accessibility. Among these issues, the most difficult to handle are probably those related to flexibility and adaptability of the institutions, and the achievement of excellence within the system. If these are the areas of greatest concern, and if Canadians believe that major improvements are necessary, then quite significant changes in funding mechanisms may be needed.

While educators' sense of responsibility and the threat of government action may induce considerable response to present problems, these forces may fail in critical ways. Institutions may fail to recognize or adapt to the educational implications of rapidly changing technology, or they may be unable to make the difficult internal reallocations of resources required. They may also tend to make adjustments which governments or the public can easily monitor, while sacrificing quality or neglecting other dimensions of service which are harder for outsiders to observe. In view of Commissioners' concerns in these matters, it seems appropriate to consider ways in which methods of financing post-secondary institutions may be adjusted to encourage the attainment of greater flexibility and excellence.

Provincial governments may be able to encourage universities and colleges both to achieve excellence and to become more adaptable by allowing them to raise tuition fees without facing a corresponding reduction in provincial subsidies. The most important effect of "freeing-up" tuition fees in this way could be to induce much greater response to enrolment demand: universities could charge higher fees for higher-demand or higher-cost programs, and the prospect of acquiring additional revenue by this method will induce them to provide more places in such programs. Another likely consequence, however, would be a considerable increase in average fees. Such increases would erode equality of access to post-secondary education if countervailing action were not taken. To prevent such erosion, borrowing limits under the Canada Student Loans Program (CSLP) might be extended, or a contingency loan-repayment program might be established and more generous scholarship and bursary arrangements offered.

To give PSE institutions greater control over their fee structure might also induce greater variation in fees across programs and, particularly, among institutions, reflecting differences in costs and in the nature of programs provided. Some institutions would be likely to offer low-cost "no-frills" education, while others would provide more intensive, higher-level education intended to set very high standards of achievement. Both approaches are entirely appropriate and desirable, since both serve a real social need. Some institutions would serve large numbers of average students and do that job well. Others would serve smaller numbers of exceptional students and perform high-level/research functions, again, doing their job very well. In short, a much more heterogeneous post-secondary system, efficiently serving the highly varied needs of different categories of post-secondary students could well evolve over time. It could be politically difficult, however, for any one provincial government to take unilateral action to allow a substantial increase in tuition fees. For this reason, such changes on any but a national scale are rather unlikely. Means of ensuring federal-provincial co-operation would therefore be a crucial consideration in planning such a move.

If a variable fee structure were to be introduced, the effect could be considerably augmented by channelling federal support to post-secondary education through students, rather than through provincial governments. By funding students rather than provinces, the federal government would automatically direct its support to the programs that students demand. Provincial governments would be able, simultaneously, to permit tuition-fee increases, thus allowing post-secondary institutions the flexibility to respond effectively to enrolment demands.

What form should direct federal support to students take? One option might be for the federal government to institute a partial tuition-fee voucher or tax credit as a form of direct income transfer to students. The basic federal transfer would cover some fixed proportion of all tuition costs of formal schooling, including occupational training in institutions, between some minimum fixed deductible and a ceiling. This arrangement would be equivalent to making cash grants to students, differentiated according to program costs. An education-expense tax credit or transfer would divert federal PSE support from lump-sum EPF grants to direct aid to students, in such a way that provinces would have an incentive to respond by increasing tuition fees. To a ceiling level, a large proportion of each increase in tuition fees would be offset by increased federal aid to students. While it would not necessarily be politically easy for a province to allow tuition-fee increases, such an arrangement should make it quite possible.

There is no reason to believe that the average net cost to students would *necessarily* increase. In general, the federal transfer payment could compensate for fee increases. It is quite possible, however, and perhaps even desirable, that some increases could occur. Private sector contributions (including student-tuition fees) are now extremely low by historical standards, and it may not be inappropriate to expect the direct beneficiaries of post-secondary education, including students and employers, to bear directly somewhat more of the cost. This increased cost could be expected to

constitute a heavier burden for some universities than for others. It would presumably reflect such market factors as the expected return to the student of receiving an education in that institution. The essential factor is that low-income students who are academically qualified not be excluded from the system by financial barriers. To this end, it would be particularly important that the CSLP or its income-contingent/repayment replacement be readily available to support qualified low-income students.

The federal credit would replace the cash-transfer portion of EPF. In 1985–86, that transfer will amount to approximately \$2 billion. However, the Province of Quebec also receives a tax-point remission for post-secondary education, and if the federal government were to provide a comparable remission to other provinces, the funds it could allocate for direct-to-student transfers would be reduced by approximately \$450 million. In that academic year, there will be approximately 850 000 full-time post-secondary students to receive the equivalent of the transfer payments in direct aid. The average size of the individual educational credit could therefore amount to approximately \$1850.

Commissioners also recommend that the federal government consider a somewhat different version of direct-to-student funding. It might be argued that graduate students, because of the high level of their training, make a disproportionately large contribution to our national economic and cultural development. Graduate students and alumni of graduate programs are also likely to be more mobile than undergraduates and alumni of first-degree programs. Thus it may be appropriate for the government to consider providing considerably higher levels of support for students enrolled in graduate programs and proportionately less support for undergraduates. For example, if the credit or voucher available for undergraduates were reduced to an average of \$1500 per student, then about \$450 million would be available for transfers to over 53 000 full-time and 34 000 part-time graduate students. If we assume that these groups are equivalent to 64 000 full-time graduate students, the voucher amount per student could approach \$7000. This distinction would greatly fortify the consumer power of these students and thus strengthen the competition among universities to attract them and consequently encourage the development of centres of excellence. Given the generosity of such provisions, it would be important, of course, to monitor these programs carefully in order to ensure that academic standards are maintained and that too many students do not undertake graduate studies. While we make no recommendation concerning the appropriate level of graduate-student vouchers, we do recommend that this possibility receive some consideration.

Commissioners' proposal for direct-to-student funding is congruent with the assumption that support for post-secondary institutions is provided, primarily, to underwrite teaching costs, although the graduate-student option would also add significant support to research projects. In fact, as we noted earlier, post-secondary institutions, particularly universities, provide a variety of other benefits to society, of which the most important are research, the maintenance and development of culture and knowledge, and the provision of other community services, such as those offered by public speakers or paid

and volunteer consultants. A funding formula based strictly on undergraduate enrolment would not fully reflect the value of these services. Extra grants could therefore be provided to institutions with higher-than-average publication rates or with greater-than-average success in obtaining research grants from the private sector. Alternatively, funds provided by the various granting Councils might cover the overhead costs of research projects, as now happens in the United States, or the universities themselves might be able to work out a national formula for the distribution of funds to support research and student services. Of course, transferring money from the direct-to-student grants for these purposes would raise the effective cost of education for students and, to some extent, shift the balance of emphasis in universities towards research.

In order to retain, and perhaps improve, the access of low-income students to PSE institutions, the Canada Student Loan Program would have to be retained and its loan limits increased for those students who qualify academically for higher-cost programs. Alternatively, the CSLP could be replaced by an income-contingent/loan-repayment scheme of less universal nature than that referred to above. The income-contingent/repayment loan, while not an attractive option to cover all direct-to-student financing, does have advantages for providing support to students who require extra financial assistance. It lowers the financial risk of post-secondary education for lower-income Canadians by assuring them, in effect, that if their increased education does not produce a relatively higher income, its cost to them will be reduced correspondingly. Perhaps equally important, it removes the necessity to consider, before the terms of the loan/grant arrangement are settled, whether or not a student could be supported by his or her parents. The provision in the current CSLP arrangements that requires this information has always been difficult to administer, and many students have learned to manipulate it to minimize the cost of loans to themselves, whatever their family financial situation. The income-contingent/repayment feature does not require any "needs" test before the loan is granted, since repayment will be tailored automatically to post-education income, and not to current need.

Not surprisingly, a shift to direct-to-student funding has significant ramifications affecting the distribution of revenues among provinces. Table 18-1 indicates the extent of the changes (interprovincial dollar shifts) which would have occurred in the flow of funds to provinces if the program proposed had been in effect in 1982-83. If 1984-85 figures were available, the current dollar amounts would be about 11 per cent higher, but the initial distribution shown in Table 18-1 would be essentially unchanged.

Ontario, Quebec and Nova Scotia would each receive somewhat more money if the relative numbers of students remained unchanged. The largest percentage gain of 5.1 per cent would occur in Ontario. British Columbia would lose about 9 per cent of its current federal funding, while Newfoundland, Prince Edward Island and Saskatchewan would lose about 8 per cent each. These changes would occur because of the real distribution of students for, unlike the current EPF formula, a direct-to-student/funding arrangement would distribute the money across Canada on the basis of student population, rather than on that of a simple per capita formula. Moreover, funding figures

TABLE 18-1 Interprovincial Dollar Shifts from Replacement of EPF by Direct-to-Student Funding

	1982-83 EPF (\$ 000s)		Notional Cash ^a After Equivalent to Abatement		1982-83 ^b Full Time PSE Enrolments	Total Direct Transfers to Students in Province ^c	Total Gain (Loss) in Province	Percentage Change from Current Cash Transfers	Percentage Change from Current EPF Total Entitlement
	Cash	Tax	Total	Distribution					
Newfoundland	47 186	37 339	84 525	29 400	11 470	22 221	(7 179)	-15.2	-8.5
P.E.I.	10 150	8 032	18 182	6 300	2 500	4 843	(1 466)	-14.4	-8.1
Nova Scotia	70 486	55 777	126 263	43 900	23 870	46 236	2 336	+3.3	+1.9
New Brunswick	57 932	45 842	103 774	36 100	15 320	29 675	(6 425)	-11.1	-6.2
Quebec	334 843	623 129	957 972	334 800	181 280	351 139	16 339	+3.0 ^d	+1.7
Ontario	667 834	610 188	1 288 022	448 200	265 100	513 499	65 299	+9.8	+5.1
Manitoba	85 621	67 752	153 373	53 400	23 400	45 326	(8 074)	-9.4	-5.3
Saskatchewan	84 179	61 124	145 303	50 600	20 100	38 934	(11 666)	-13.9	-8.2
Alberta	130 854	211 913	342 767	119 300	57 740	111 842	(7 458)	-5.7	-2.2
British Columbia	195 062	217 024	412 086	143 400	54 910	106 361	(37 039)	-19.0	-9.0
Yukon & N.W.T.	5 160	5 263	10 423	4 900	0	0	(4 900)	—	—
Total	1 699 307	1 943 383	3 642 690	1 270 300	655 690				

Source: Canada, Secretary of State, *Support to Education by the Government of Canada* (Ottawa: Minister of Supply and Services Canada, 1983).

- "Notional Cash" is calculated by assuming that the federal government surrenders to all provinces the equivalent of the Quebec Abatement for post-secondary education. Its value is calculated by multiplying the total entitlement by the ratio of Quebec cash to total entitlement.
- Part-time students are not included. They add approximately 10% to the total of students in each province.
- The value of the transfer is approximately \$1937. Inclusion of part-time students will reduce this to about \$1750 (in 1982 \$). The total dollars going into a province will be equal to the transfers to students, plus the value of the abatement. The abatement value will be equal to current cash, minus the Notional Cash.
- To calculate this percentage, the Quebec cash figure was adjusted to include the approximate value of the abatement. The adjustment value is approximately \$537 275 000.

would change in response to fee differentiation and shifting student population; these changes would be both inevitable and intentional in a more directly market-oriented system.

On the basis of this review of the present problems and possibilities relating to post-secondary education and its financing, options open to Canadians include:

- A return to the pre-EPF funding formula whereby the federal government transferred to provincial governments 50 per cent of the operating costs of PSE institutions. This move would produce a decrease in federal contributions, but would exert some leverage on provincial governments to increase contributions, since larger provincial transfers to universities would elicit larger federal transfers to the provinces.
- Provision by the federal government of an amount equal to provincial "own source" funding, exclusive of the tax points transferred under EPF. This action would reduce federal contributions by \$600 – \$900 million, and at least part of this decrease might well be passed on to the PSE institutions in the form of cuts by the provincial governments. After the initial decrease, this formula, too, might be expected to exert upward leverage on provincial expenditures.
- A freeze of basic federal contributions at current or slightly lower-than-current levels, with 50/50 federal matching of incremental provincial PSE spending. Since provincial spending increases would be accompanied by equal federal increases, this arrangement, also would exert upward leverage on provincial expenditures.

While the third option is perhaps preferable, it also has significant disadvantages. It tends to fix federal contributions at the historically high current level. It allows those provincial governments which have provided relatively less to PSE institutions to retain a very high share of federal funding, while financing any increments from this very low base level on a 50/50 basis. In effect, therefore, it may tend to consolidate the benefit to provincial treasuries of what some would regard as previous provincial government underfunding. If it triggers an initial reduction in contribution levels, that reduction might be passed on to the PSE institutions by provincial governments. All of these options rely on the premise that provincial governments will respond to "fifty-cent dollars" by increasing spending in areas where those dollars are available. While this possibility has undoubted theoretical appeal, empirical evidence in its support is derived from a period when public sector budgets were expanding, and when spending on educational programs was highly popular.

Commissioners have also considered a variant of the third option outlined above. The freezing of federal cash contributions to provincial governments at 1984–85 levels would generate quite substantial savings: these would be in the order of \$130 million in 1984–85 and, depending on rates of nominal growth of GNP, over \$200 million in 1985–86, and well over \$300 million in 1986–87. If the federal government used this money to support research activities in Canadian universities by covering the overhead costs of research, freeing accomplished researchers from teaching loads, and underwriting purchases of

capital equipment, a very substantial impetus could be provided for Canadian research efforts, and very important centres of specialization and excellence could be created. Commissioners believe that this option also deserves serious consideration, although the shifting of such sums from general support to research support might have negative effects on undergraduate programs and on community colleges. It may be more desirable, therefore, to provide one-half the incremental funding to support university-based research and to use the other half to match, on a 25/75-federal/provincial basis, provincial increases in transfers to post-secondary institutions.

Since all the options for changing funding formulae have flaws, the temptation becomes very strong to accept the *status quo*. That temptation must be offset, however, by the high levels of dissatisfaction with the current situation expressed during this Commission's hearings, both by those within the system and by the broader interested public. Since all the standard intergovernmental mechanisms of fiscal transfer that are available have been tried in this sector, and since all have been found wanting, Commissioners recommend that Canadians seriously consider more significant reforms involving direct-to-student transfers by the federal government and "freed-up" tuition fees in PSE institutions. To cover the overhead costs of research, we recommend that some of the funds currently transferred under EPF be shifted to the granting councils: the Medical Research Council, the Natural Sciences and Engineering Research Council, and the Social Sciences and Humanities Research Council; we further recommend that the Councils award research grants generous enough to provide full funding for the overhead costs of research. We believe that the other options, too, merit serious consideration. Most particularly, however, we are convinced that it is important for federal and provincial governments to begin a serious set of negotiations with respect to post-secondary education. For too long now, Canadian governments at both these levels have been avoiding the very serious need to reconsider the financing and structure of PSE institutions and programs.

Finally, Commissioners wish to make two further comments on this subject. First, we wish to draw attention to the wide range of means of delivery of higher education made possible by modern communications technology. While there are undoubted advantages to on-campus training, this experience is not possible for millions of Canadians who do not live near a PSE institution. The provision of television courses, whether satellite- or cassette-based, the transmission of educational information through on-line home computers, and the supporting use of correspondence material, all constitute noteworthy innovations in providing education to many Canadians who could not otherwise expect to have access to it. We wish to express our admiration and support for those Canadians who have pioneered in these areas, and to recommend that governments continue to underwrite their efforts and encourage the expansion of their work.

We also wish to comment on the state of university-based social science research in Canada. We do so on the basis of our own experience, for it is largely from this source that we recruited our research personnel and the research expertise which is one of the corner-stones of this report. We

discovered, as we inaugurated our research effort, that Canada has available a very substantial body of researchers with a remarkably extensive knowledge of Canadian society and the economy. We found no shortage of people capable of conducting research into Canadian topics and of expressing their findings in ways accessible to this Commission. We found a lively interest in almost all of the major issues this Commission wished to confront. But we also became aware of some shortcomings.

Canadian social science appears to be characterized by considerable parochialism. While there exists extensive knowledge of things Canadian, the ability to compare Canadian situations or policies with those of other nations often seemed to Commissioners to be distinctly limited. We have had some difficulty, for example, in finding Canadian academics who could provide up-to-date information on foreign domestic developments. We have learned that Canadian academics do not always participate as extensively as they might in international research networks, and there appears to be relatively little "leading edge" Canadian research in some of the fields with which we were most concerned. It seemed surprising to us that we could find rather few economists deeply concerned with resource policy and almost no political scientists specializing in the politics and government of the United States. In part, this general parochialism might be explained as a reaction against the domination of Canadian social science by U.S. concepts and by American-trained social scientists of the 1960s and 1970s. Nonetheless, that consideration does not make it a desirable feature of Canadian academic life. We have also discovered a considerable degree of disciplinary isolation. Economists, political scientists and lawyers working with this Commission were happy to try to work together, but it became obvious at an early stage of our project that they had had little experience in doing so. This situation left Commissioners and staff with significant problems in trying to devise an integrated approach to the materials available.

Commissioners' suggestions emanating from these concerns are almost self-evident. Canadian scholars and institutions should be encouraged and supported in pursuing interdisciplinary research and in conducting investigation which will extend our nation's horizons beyond our own borders. Government granting Councils and programs designed to encourage research in the social sciences should pay particular attention to developing this aspect of Canadian university-based research.

Notes

1. In the 1960s and 1970s, economists devoted considerable effort to estimating rates of return on education. Their chief purpose was to see whether there was overall under- or over-investment in education. Such studies typically suggest that the rate of return on education is quite high (for example, between 10 and 15 per cent), although a decline in rates of return is believed to have occurred in the 1970s. While such estimates had a considerable impact in the 1960s, their influence declined in the 1970s.
2. Organisation for Economic Co-operation and Development, *Social Expenditure 1960-1990: Problems of Growth and Control* (Paris: OECD, 1985). Note that OECD comparative data are for educational expenditures. When publicly financed training is added, total expenditures approach 8 per cent of GNP.

3. Cited in Lars Osberg, *Economic Inequality in Canada* (Toronto: Butterworth, 1981).
4. O. Mehmet, *Who Benefits from the Ontario University System: A Benefit-Cost Analysis by Income Groups* (Toronto: Ontario Economic Council, 1978), p. 45.

Training

In our earlier discussion of general labour-market issues, Commissioners emphasized the need to help individual members of the labour force to adjust to changes and dislocations, whether caused by economic and market forces or by technological change. Governments may provide this help in the form of direct financial support, by facilitating the flow of information about opportunities, or by supporting training activities.

Governments have tended to provide most of their employment-training assistance through institutional training programs based primarily in *Collèges d'enseignement général et professionnel* (CEGEPs) and community colleges. Most such training, however, is, provided on the job without government support. The costs of this type of training are largely shared by employers, in the form of temporarily forgone production, and by their employees, in the form of temporarily forgone wages. What, then, is the appropriate balance between on-the-job and institutional training? No unequivocal answer to this question is possible, but a case can be made for some movement toward on-the-job training and away from institutional programs. Fortunately, federal policy is already progressing in that direction.

There are other important questions too, that need to be asked and, if possible, answered. For instance, how much training is required? What should be the level of specialization and sophistication of that training? Where should the balance lie between training early and later in life?

Commissioners raised the issue of the degree of specialization and sophistication of training required when we considered post-secondary education. There, we noted that the evidence that technological and economic change would require a more highly-skilled and sophisticated labour force was not necessarily compelling. Rather, it seemed that the skills required of our labour force over the rest of the century might be somewhat different in content from the current mix, but not a great deal more sophisticated. Nevertheless, there is no question but that Canadians should expect and plan for a continuing general increase in the education levels of our society.

We have already noted at many other points in this Report that economic forces will require Canadians to face significant and rapid changes, not least in the structure of opportunities for our labour force. When this reality is applied to post-secondary education, it argues for a solid and rigorous generalist approach, with some degree of specialization for some people. When it is applied to occupational training, it argues for something quite different: the need to be prepared to undertake some specialized training at more than one point in one's career. Commissioners believe, therefore, that both governments and the private sector must, in the future, be willing to devote a larger portion of resources to the training of Canadians.

Institutional Employment Training

The federal government, under the Adult Occupational Training Act (AOTA) of 1966 and its successor, the National Training Act (NTA) of 1982, has provided a significant portion of Canada's institutional occupational training.

Under the AOTA, it provided courses of training primarily for those Canadians who had discontinued formal schooling for at least 12 months; these courses, which were provided in provincial institutions, mainly community colleges, were limited to a year's duration. After 1974, each province was given a guaranteed minimum of funds for such training, indexed to the Statistics Canada Education Price Index. Under the National Training Act, the old Canada Manpower Training Program (CMTP) was replaced by a new National Training Program (NTP) to offer more flexible institutional training.

Until the inauguration of the NTP in 1982, the federal response to criticism of CMTP took two main forms. A decision was taken to reduce the proportion of CMTP trainees enrolled in the low-level Basic Training for Skill Development (BTSD) courses. In addition, the number of CMTP trainees relative to trainees in on-the-job industrial training programs was steadily reduced. Thus there was a shift of resources toward higher-level skill development and from institutional to industrial training.

The National Training Act has made several important changes in institutional employment training. For example, if there is a skills shortage, or if a trainee has no other opportunities to acquire a particular skill, he or she may enrol within fewer than 12 months of leaving school. Thus, in future, employment training may serve to provide young people with an additional bridge between school and work. In addition, the maximum length of a course offering instruction in higher-level skills has been increased from 12 to 24 months. Higher-income/support rates are now provided to encourage laid-off apprentices to continue training and to assist laid-off workers to retrain in "demand occupations". More extensive use of unemployment insurance (UI) benefits in lieu of the lower-level/training allowances has also supported this approach.

A further element is the development of a new system for overall allocation of training resources: the Canadian Occupational Projection System (COPS). This computer-based system draws on forecasts of occupational demand and supply, provided by employers, unions, governments, and educational institutions, to put together projections of the "balance" among a detailed list of occupations. Users access the system through computer links and may experiment with other combinations of the information available, using the data to assist them in making their career or training plans. Occupations in which there is a high level of demand, either nationally or regionally, will be designated "national occupations", and training resources will be directed to these on a priority basis.

Systems such as COPS may, in the future, become more widely available to individuals planning careers. It is important, however, to acknowledge that in the past, neither Canada's nor any other nation's attempts at occupational-demand projection have been very successful. Moreover, there are some dangers in using planning systems that are too broadly based, for today's "demand occupations" may be overwhelmed by new entrants if the same information governs too many training decisions.

On-the-Job Training

While there exists no precise way to measure expenditures for on-the-job training, some estimates suggest that they are as high as those for formal schooling, particularly for male workers. Recently there has been an increase in government support for this sector of our training system. One important impetus for this increase was the disappointing experience with institutional employment training in the 1960s and 1970s. More recently, a number of serious shortages of skilled workers in particular fields (machinists, machinery mechanics, tool and die makers, for example) and the fear that industry, unassisted, will be unable to retrain workers as necessary to meet the rapid technological changes of the 1980s have resulted in greater public interest in employment training.

Throughout the 1970s and into the 1980s, there was a gradual shift of federal training resources away from institutional training and towards the subsidization of on-the-job training. Programs specifically aimed at alleviating apparent shortages of labour in certain trades were also introduced. Finally, various other wage-subsidy programs have been initiated. These contribute to training by helping young people and other targeted groups to obtain jobs that will assist them to "get started" in the labour market.

Wage-subsidy programs to stimulate on-the-job training have also been introduced by provincial governments. The Ontario Career Action Program, for example, is intended to put to work, for up to 16 weeks, trainees from among unemployed 16- to 24-year-olds, at zero cost to their employers. The trainees receive training allowances (in effect, a full-wage subsidy) of \$100 per week, in lieu of salary. Another variant, the Ontario Training Incentive Program (OTIP) is intended to provide payments of \$1000 each to any employer and employee when the former keeps the latter in an on-the-job training course for a full year.

Although one ostensible purpose of diverting resources from institutional training to on-the-job training is to exploit the informal learning opportunities of the job situation, it has been alleged that the design of current federal programs restricts the extent to which this aim is realized. The programs provide a combination of wage subsidies and support to employers to cover the cost of training programs. However, support is provided only for formal instruction, that is "classroom" training within the firm, and not for the costs of informal instruction at the work station. This kind of support may therefore be less effective than lump-sum support as provided under some provincial programs in which employers are free to propose other ways of providing instruction.

Finally, it has been widely suggested that the diversion of training resources from institutions to on-the-job training and the intention, under the National Training Act, to concentrate on training for high-demand occupations represent a major change in the purpose and probable effects of federal support for employment training. Many analysts believe that the pursuit of "distributional" objectives, such as offsetting regional differences in unemployment rates, are beginning to take second place to an "efficiency"

focus, which directs resources to the areas where the largest possible increases in output can be generated per training dollar. This approach is consistent with the approach Commissioners have taken in this report. In general, we believe that distributional objectives should be pursued through programs intended specifically to provide income security, and that training programs should focus as directly as possible on improving the efficiency of our labour force.

Broadly speaking, then, the directions set out in the National Training Act, the agreements signed pursuant to that Act, and the increased emphasis given to on-the-job training seem quite appropriate, and Commissioners do not recommend any change of course. Nevertheless, a system as large and complex as that administered by the NTA typically suffers from a very substantial degree of inertia, and changes within it come only slowly and with difficulty. The federal and provincial governments will have to put forth a considerable continuing effort if this redirection is to be consolidated.

Employment Training for School-Leavers

While Canadian governments typically devote considerable attention to institution-based education and training programs, they have traditionally paid less attention to on-the-job training and to non-institutional vocational education for early school-leavers. Commissioners agree, in general, with the Chairperson of the Toronto Board of Education who commented to us:

What I believe we do is to make a significant public policy commitment to those students whose transition to adulthood is going to be fulfilled through the post-secondary education sector, either universities or colleges. What I believe we fail to do—our record is appalling—is to nurture the transition of those students that choose to leave school either before or immediately following the acquisition of a secondary school graduation diploma.

(Penny Moss, Transcript, Toronto, June 26, 1984 [vol. 13], p. 3245.)

Actually, both federal and provincial governments have already begun to change this situation. Not only has more support been made available for general industrial training programs, but there has also been some expansion of wage-subsidy plans to help young people obtain work. Under the National Training Program, the federal government has also moved to increase the scale of support for industrial and apprenticeship training, some of which goes to young labour-force entrants. In addition, for the first time, this support allowed early school-leavers to enter directly into non-apprenticeship employment training, without first spending a year in the labour force. However, the great majority of those entering the labour force directly from school still receive no government help in obtaining training.

More adequate encouragement for school-leavers to take on-the-job training might include expanding existing programs for these young people, particularly in apprenticeship training; encouraging them to participate to a greater extent in institutional employment training; and spending more on

wage-subsidy programs to promote "career action". The institutionally-based programs have the potential flaw of substituting formal institutional training for practical on-the-job training that might prove more productive. Moreover, the institutional approach is selective: a minority of school-leavers receive intensive assistance, but the majority must do without help. This type of program also increases the danger that government assistance will encourage young people to crowd into high-demand occupations when it might actually be desirable for them to choose from a broader range of employment possibilities.

In view of the drawbacks of opting for selective support for vocational training of school-leavers, it may be desirable to consider a "universal" plan. The Swiss, West German and the British systems provide examples. Under the Swiss and West German systems, all young people between the ages of 15 and 18 who are not in regular schools or post-secondary institutions are engaged in some form of vocational training. Some of their training is provided by the state institutions, and some is offered by firms, in the form of apprenticeship programs. These schemes have their attractions. They may, for example, reduce the need for "remedial" employment training, on which Canadian taxpayers spend so much, by arranging to train people properly in the first place. However, they are unquestionably very expensive. Less-costly options should therefore be considered.

One universally applicable proposal would be to offer wage subsidies inversely related to age for all young workers. A program might, for example, pay \$1.50 an hour on behalf of 15-year-olds, \$1.00 an hour on behalf of 16- to 17-year-olds, and so on. A precedent for this type of scheme was the employment tax credit introduced into the corporate tax in 1978. This credit provided a \$1.50-per-hour wage subsidy (higher in designated areas) for new full-time employees hired for at least three months. Some will object that this scheme would merely lead to more "dead-end" jobs for the young because the jobs subsidized would lack a required training component. Some subsidy funds would no doubt go to support such jobs, but this disadvantage must be weighed against the benefits of the scheme: among these are reduced youth unemployment and more on-the-job training. The subsidy is particularly useful in rectifying situations where the minimum wage severely reduces on-the-job training for workers in the target age brackets. A general subsidy would have some of the same effects, but it would not provide a targeted advantage for those newly entering the labour force.

In a fiscally unconstrained world, Commissioners would recommend a generalized job-apprenticeship program along the German lines. Given the reality of fiscal constraints, however, we recommend reinstatement of the employment tax-credit program of 1978, which was targeted at youth, and the elimination of all specifically youth-targeted, direct, job creation. The tax-credit program should also be made available on behalf of women entering the labour force for the first time and of those who are re-entering the workforce, after dropping out for reasons of family responsibility. During phase-in, the program should be monitored to determine whether it displaces existing workers to an unacceptable degree.

Retraining and Paid Educational Leave

The new insight of our times, we suggest, is that education is not a program which can be added to or subtracted from the other patterns of national activity. Education is instead, a way of life within the community, a continuum of experience that progresses from pre-schooling to elementary and secondary schooling, to college and university, on to continuing education, *éducation permanente*, as our French colleagues wisely term it. Education must truly become education-for-life: that is, "life-long educational experiences, fitting Canadians to live in swiftly changing environments." (David Johnston, Transcript, Montreal, May 30, 1984 [vol. 1], pp. 20-21.)

This Commission's research has indicated that the tax system provides more liberal treatment for on-the-job training than for part-time or full-time formal education for prime-age workers and older Canadians. Given a stable technological and economic environment, this fact might be of little concern. After completing a formal education in their early years, Canadians would acquire general and specific skills through on-the-job training. The time devoted to such training would be reduced until, by late middle age, workers would be almost entirely engaged in earning a return on their accumulated skills and would spend little time augmenting them. Whether taxes and subsidies for highly-paid prime-age workers discouraged the acquisition of formal education in comparison to on-the-job training would be of little concern. Very few prime-age workers would, in any case, wish to return to formal schooling.

In fact, changes in technology and the structure of work often necessitate retraining and re-education at various points in an individual's lifetime. Job-related changes can wipe out the value of a worker's skills or create new opportunities, not originally present, for investment or human capital. Provided that a worker is not too old, such changes will often make a period of re-education a paying proposition. They may even make profitable a full-time return to study. Two recent proposals for assisting adult education and training are a levy/grant scheme of the type used for a time in Britain in the 1960s and 1970s, and the proposal for earned educational leave made recently in *Learning for Life*, the report of the National Advisory Panel on Skill Development Leave.¹

While there are strong proponents of a levy/grant scheme, many analysts have questioned its suitability. The 1981 report of the Canada Employment and Immigration Commission (CEIC) Task Force on Labour Market Development suggests several problems with the levy/grant system:

The original intention of the levy/grant system was to redistribute funds (i.e., the costs of transferable skill/training) from firms which did no training themselves but relied on recruiting skilled workers trained by others, to those firms which actually did the training. In practice, the system operated in such a way as to also redistribute funds for other reasons.

- *Firms within the same industry and which paid the same amount of levy (because their total payroll or employment was identical) recovered greatly*

differing amounts in grants because differences in the skill mix in their enterprises affected their ability to earn training grants.

- Firms which had low turnover among their skilled staff and hence did little training (because it was not necessary) recovered little from their levy and saw themselves as subsidizing less well-managed firms which had high turnover, conducted a great deal of training and hence attracted relatively large training grants.
- Highly specialized firms, with training carefully geared to their own requirements, received a low return on their levy (in the form of grants) because their training did not fit the training boards' grant criteria which were geared to common training standards for the industry as a whole.
- Some firms received a high return on their levy because they could arrange "training" activities which satisfied the boards' grant criteria, even though there was no real need for the training. (In this respect, a system intended to improve allocation of resources to training actually promoted a misallocation of resources.)²

Another important recent proposal for support of re-education and retraining is that for earned educational leave. Such an arrangement might, for example, provide every worker with the right to paid educational leave at the rate of one day off for every 30 days worked. Employers would be compensated by means of tax credits for the costs of hiring replacements. This earned time-off proposal put forward in *Learning for Life* offers high rates of subsidy for a short period of time. For example, an employee who had worked for five years would have earned about two months' fully paid leave. For workers who have access to satisfactory opportunities for re-education, however, this length of leave is insufficient, while for those with unsatisfactory opportunities, it is too long.

A third option proposed is the "Registered Education and Training Savings Plan" (RETSP) of *Labour Market Development in the 1980s*, or the "Registered Educational Leave Savings Plan" (RELSP) of *Learning for Life*.³ Under the RELSP, workers could save for re-education in the same way that first-time home buyers could once save for their first house. Each year, contributions up to a certain limit could be used to reduce taxable income, with resulting tax relief. Later, when the individual took time off to go back to school, the savings of the RELSP could finance educational and training costs.

RELSPs offer some major advantages over the earned educational-leave proposals in *Learning for Life*. The RELSP would provide approximately the right level of subsidy, given nearly equal marginal tax rates before and after training. It could be made even more flexible by allowing workers on leave to borrow against a RELSP account if educational/training opportunities occurred suddenly before sufficient funds had been accumulated to cover fully the costs of leave. It appears, therefore, that RELSPs deserve much closer attention than they have so far received as a possible device for increasing incentives for prime-age workers to return to formal schooling or to training on the job.

Notes

1. Canada, National Advisory Panel on Skill Development Leave, *Learning for Life: Overcoming the Separation of Work and Learning*, a report to the Minister of Employment and Immigration (Ottawa: Minister of Supply and Services Canada, 1984).
2. Canada, Employment and Immigration Commission, Task Force on Labour Market Development, *Labour Market Development in the 1980s* (Ottawa: Minister of Supply and Services, 1981), pp. 225–26.
3. See also Canada, Task Force on Skill Development Leave, *Learning a Living in Canada*, 2 vols. (Ottawa: Minister of Supply and Services Canada, 1983).

Recommendations

Post-Secondary Education

A number of options are available for dealing with post-secondary education. To some, the *status quo* will seem a satisfactory blend of federal financial support and provincial control. However, the majority of intervenors appearing before this Commission did not find the *status quo* acceptable. Commissioners therefore believe that reforms must be considered, and that serious federal-provincial negotiations to promote this end should begin immediately. Four major and related sets of issues call for discussion: accessibility, levels of funding, quality of the system, flexibility and adaptability.

Commissioners believe that financial problems should not be permitted to prevent otherwise-qualified Canadians from receiving post-secondary education. We therefore support the Canada Student Loans Program and its provincial equivalents, and we recommend that loan limits be changed, in consonance with other policy changes we propose, to remove any financial barriers that might exclude otherwise-qualified low-income students. We are concerned, however, that some aspects of the CSLP are not consonant with family structures currently developing in Canada: in particular, the tendency for university students to become, or claim to become, independent of their parents at an earlier age. An income-contingent/loan-repayment scheme, by treating all applicants alike and by avoiding the need to investigate parental income, could significantly alleviate this problem. It should be seriously considered during the course of the federal-provincial negotiations we have recommended. We also wish to emphasize the importance of continuing to grant scholarships for students who excel, no matter what their income level, and of offering bursaries for low- or moderate-income students with above-average grades who might otherwise be reluctant or unable to continue their education.

If Canadians see the equality and flexibility of our education/training system as a key concern, and if they are convinced, as are Commissioners, that the infusion of more money will not automatically ameliorate these problems, then, in the view of this Commission, a series of reforms designed to create a more competitive and adaptable system should be considered. The main leverage of governments in dealing with the PSE system is financial. The following financing changes should therefore be considered:

- The federal government should terminate the PSE-cash portion of its EPF grants to the provinces, replacing it with an education-expense tax credit or grant.
- Provincial governments should be encouraged to deregulate the fee structure of PSE institutions.
- Provinces may wish to consider basing their transfers to institutions on an equal grant/per-student figure which would be related directly to enrolment, and which would not differentiate among particular programs.
- The student should be responsible for a portion of education costs. Beyond that point, the federal credit should vary with the amount of expenses and

tuition fees, up to a given limit. The amount of the grant should vary only to correspond to fees and expenses directly related to education, and no attempt should be made to direct students into "demand" programs by means of a variable grant structure.

- A portion of the current EPF transfer should be reallocated to granting Councils such as the Medical Research Council, the Natural Sciences and Engineering Research Council or the Social Sciences Research Council, which should begin to cover overhead costs by means of research grants.

As a variation of this approach, it may be desirable to consider an alternative system in which much larger payments are made to graduate students than to undergraduates. Commissioners' preliminary calculations suggest that undergraduate and community-college grants, averaging about \$1500 per year, could be accompanied by graduate stipends in the order of \$7000 per year.

Commissioners' recommendation relating to direct-to-student financing is consistent with either increasing or decreasing the amount of funding for the education sector. If Canadians are persuaded that the major problem of the PSE system is underfunding, that the current intergovernmental-transfer mode of funding presents no problem, and that provincial governments have reduced their grants to educational institutions primarily because of the EPF funding formula, then other options should be considered. These include:

- A return to the pre-EPF funding formula
- Provision by the federal government of an amount equal to provincial "own source" funding, exclusive of the tax points transferred under EPF
- Freezing of *basic* federal contributions at current or slightly lower-than-current levels with 50-50/federal-provincial matching of incremental provincial spending on post-secondary education.

Variants of this last option would be either to direct the incremental federal dollars wholly to university-based/research funding or to dispense one-half for increasing research funding and one-half for matching increased provincial funding to PSE on a 25/75-provincial/federal basis.

Among all of the above options, Commissioners would recommend that the direct-to-student/funding variants deserve most serious consideration as the basis of federal support for post-secondary education. We also believe that if intergovernmental transfers remain the dominant mode of funding, then serious consideration should be given to freezing the basic federal contribution and dividing equally what would have been its incremental amounts between research and a fund to match increments in provincial contributions to PSE institutions, on a 25/75-provincial/federal basis.

Other Education and Training Programs

With respect to primary and secondary education, Commissioners recommend that:

- The private sector take the initiative to establish an independent national commission to monitor quality and standards in primary and secondary education, and to conduct and record research in related areas.

With respect to training, Commissioners recommend that:

- Progress be continued in the directions established by the National Training Act, with particular emphasis on on-the-job and job-related programs
- A special wage subsidy be provided for labour-force entrants who have not received other forms of vocational training or post-secondary education. The subsidy would normally be provided to persons 15 to 18 years of age and to people entering the labour force after absence for family-related reasons. The subsidy could be financed by eliminating other job-creation programs for young people.
- A Registered Educational Leave Savings Plan be authorized under the Income Tax Act, to be used by workers to help finance the cost of training. Careful consideration must be given to the type of program eligible for RELSP financing and to the possibility of requiring some performance standards such as successful completion of the program.



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The Income-Security System

Overview

Canada's income-security system is a complex mix of federal, provincial, and municipal programs comprising social insurance, direct government expenditures, and tax expenditures. The major programs in this system and their estimated 1984–85 gross expenditure levels are Unemployment Insurance (\$11.6 billion), Old Age Security (\$11.4 billion), tax exemptions and deductions for pension purposes (\$7.6 billion), Social Assistance (\$6.6 billion), Family Allowance (\$2.4 billion), Child Tax Exemptions (\$1.4 billion), the Child Tax Credit (\$1.1 billion), and married exemptions (\$2 billion). The personal Tax Exemption (\$14 billion) is sometimes included as well. Many other programs such as Veterans' Allowances, Training Allowances and Social Assistance to on-reserve Natives could also be included. A complete list is shown in Table 19-1.

If we except the personal tax exemption, the combination of tax expenditures, Unemployment Insurance (UI) account payments, and federal and provincial expenditures on direct transfers added up to approximately \$60 billion in 1984–85. Since this sum is equivalent to over 13 per cent of Canada's gross national product (GNP), it is obvious that income-security programs have very important macro-economic implications. Commissioners, having dealt with these implications and with Unemployment Insurance elsewhere in this Report, are concerned here with the design of the other income-security programs, for it is our conviction that the implications of program design are just as important as the questions relating to overall expenditure levels.

Commissioners believe that a review and revision of Canada's income-security programs is an essential adjunct to the changes suggested elsewhere in this Report. Government income-security programs are a fundamental part of the social consensus by which Canadians live. They express, perhaps better

**TABLE 19-1 Estimates of Government Social Security Programs
in Canada, 1984 - 85**

Target Group	Costs in billions \$		No. of Persons ('000)
	Federal	Provincial	
Poor			
Canada Assistance Plan	4.1	4.1	3 000
Provincial Tax Credits	—	1.6	107
Veterans' Allowance	0.5	—	—
Social Assistance to on-reserve Indians	0.2	—	—
Guaranteed Income Supplement & Spouses' Allowance	3.1	—	1 440
Child Tax Credit	1.1	—	5 000
Social Housing	1.1	—	—
Total	10.1	5.7	
Families			
Child Care Expense Deduction	0.1	0.0	370
Family Allowance	2.4	—	370
Child Tax Exemption	0.9	0.5	6 600
Married & Equivalent to Married	1.4	0.6	3 230
Total	4.8	1.1	
Employment Assistance			
Unemployment Insurance	11.6	—	3 200
Training Allowance	0.1	0.1	64
Workers' Compensation	—	1.6	620
Employment Expense Deduction	0.8	0.4	—
Total	12.5	2.1	
Elderly			
C/QPP	4.4(CPP)	1.6	2 330
OAS	8.3	—	2 700
Tax Assistance RRSP, RPP, C/QPP	4.7	2.3	—
Age Exemption	0.3	0.2	0
Pension deduction	0.1	—	903
Veterans' Pensions	0.7	—	655
Total	18.5	4.1	
Total income security	45.9	13.0	
Grand total	61.6		

Source: Calculations supplied by Ministry of State for Social Development, based on 1984 - 1985 estimates and Department of Finance figures.

than any other collective activity, our commitment to equity, security and sharing. They should contribute to our ability to take advantage of opportunities, and they should lead us to take responsibility for our own

support whenever that is possible. They are a foundation of support for millions of Canadians and the safety net for millions more. If we are to achieve growth and a better society, we must not fail to ensure that these programs operate both efficiently and fairly.

The changes Commissioners propose elsewhere will call for major and sometimes difficult adjustments, and the effects of these will be felt by millions of Canadians. Many will gain in the short run; most will gain in the longer term. For those of us whose lives are altered by economic change, reasonable protection and security must be provided in such a way as to encourage us to grasp our opportunities. The gains to be reaped from economic growth must be shared with those who would, in any event, require income support, and a generous measure of assistance must be provided to help them live their lives in security and dignity.

Objectives

Commissioners noted earlier that two broad objectives underlie most of Canada's income-security programs:

- The sharing of our resources so as to provide an adequate income in relation to community standards
- The maintenance of an appropriate degree of income security or stability.

In keeping with the fundamental values outlined at the beginning of this chapter, income-security programs must also achieve four other broad goals. These are:

- The equitable treatment of individuals and families in different situations and with different levels of need
- The provision of an incentive to encourage people to take advantage of their opportunities
- The encouragement of people to take responsibility for their own lives and livelihood when they are able to do so
- Respect for the personal dignity of the beneficiaries.

There are other purposes, too, which Canada's income-security programs may be explicitly or implicitly intended to fulfil. These may include the maintenance of political support, the regional redistribution of funds, and support for newly formed families and for families raising children. Since not all of these goals are consistent with one another, the design of income-security programs necessarily involves compromise and a balancing process.

More concrete administrative considerations, too, will determine the effectiveness of programs to a significant degree. These include ensuring:

- The appropriate degree of responsiveness to income change
- A minimum of program abuse
- A high rate of use of the programs by eligible beneficiaries
- Administrative ease and economy.

Achieving the Objectives: Considerations in Program Design

Adequacy of Income

The provision of an adequate income to all citizens is perhaps the goal most commonly associated with modern income-security systems, and virtually all transfer programs address it to some degree. Some programs, such as social assistance, examine family or individual needs quite closely in order to determine appropriate levels of benefits. Others, such as the Child Tax Credit or the Guaranteed Income Supplement (GIS), simply ask for reports of income as a substitute for proof of need. Still others, such as Unemployment Insurance, Canada Pension Plan (CPP), or Old Age Security (OAS), assume that need will arise in certain circumstances such as retirement, older age or unemployment, and therefore make benefits available to all eligible residents in those circumstances. Relatively few transfer programs, however, have the alleviation of low incomes as their only major objective. The exceptions are Social Assistance, the Guaranteed Income Supplement, the Child Tax Credit, and various provincial “top-ups” to OAS/GIS.

Income Stability

The second fundamental goal is the protection of income stability or continuity. In Canada that objective is treated by a variety of more or less appropriate program designs. Since almost everyone faces declining income at retirement, this objective may be partially served by providing a universal payment, in the form of OAS, to all Canadians over age 65. OAS is now accompanied by the CPP, which is currently available to members of the labour force who have contributed to the latter plan. CPP payments to eligible beneficiaries start at retirement for those who are over age 60. The CPP, therefore, is specifically related to income stability, since contributions and benefits are related to earnings.

Drops in income are also, of course, associated with unemployment, and Unemployment Insurance is intended to deal with that source of income instability. Where the decline in income is related to a definite event such as retirement, contribution levels can be related solely to income, for everyone bears the same “risk” of requiring the benefits. Where the probability of decline in income varies from individual to individual, however, the pure insurance principle would require a contribution rate related to the risk of a given event’s occurrence. (In this case, of course, the “event” is unemployment.) At present, however, the UI program does not vary its premium rates according to degree of risk, even though the risk of unemployment varies from job to job; in that sense, therefore, it is not a pure social insurance program.

Equity

A requisite in the design of any income-security system is to ensure that the net effect of its programs is equitable. The net effect of the income-security

system on an individual or family results from the interaction of both tax and transfer programs. Equity in income-security design has two aspects:

- Horizontal equity, which involves applying the tax and transfer-payment system differently to different individuals or families, according to the various needs created by their particular characteristics or situation
- Vertical equity, which involves treating individuals and families with different incomes, but otherwise similar characteristics or situations, in proportion to the differences in their incomes.

The Family Allowance program, for instance, ensures that at any income level, families with children have more resources than those without children, thus contributing to horizontal equity. By contrast, the Child Tax Credit provides greater benefits to lower-income families with children than to higher-income families with the same number of children, thus contributing to vertical equity.

Equity considerations can become highly complex and are, by their very nature, value laden. Such considerations raise any number of questions. Does ownership of a home, for example, increase the “real” income of an elderly person in a way that should result in a reduction of transfers to that person? If it does, how are program designers to define the appropriate level of income to attribute to the value of the home? How much support should be provided to families with children, compared to couples and individuals with the same incomes, but without children? How much more tax should richer individuals pay than poorer individuals? The more program designers attempt to deal with equity considerations, the more they must consider the characteristics of claimants. To achieve a high degree of equity, particularly horizontal equity, requires a very considerable exercise of bureaucratic discretion and therefore may involve significant administrative costs.

Incentives and Opportunities

Income-security programs must not impair incentives for individuals to improve their own situation. This is important both to avoid impeding people’s own efforts at self-improvement and to maximize the efficiency of Canada’s labour force. Programs should therefore be designed to provide incentives that will encourage employable beneficiaries to try to find employment, participate in job-training and skills-upgrading programs, make appropriate use of occupational and geographic mobility, and form stable work attachments. Particular care must also be taken not to build into income-security programs incentives which may diminish family formation or lead to breakdowns in family structure.

Responsiveness to Income Changes

Income-security benefits must respond reasonably quickly to the changing incomes of individuals. It may be considered more important, however, for programs to respond more quickly to certain kinds of income loss than to

others, both to encourage flexibility in the labour market and to protect beneficiaries from extreme hardship. In general, the less predictable the source of income change, the more quickly the program should be able to respond.

What is the appropriate level of responsiveness for programs intended to provide temporary income replacement during periods of involuntary unemployment? What payments should these programs make to beneficiaries? The answers to these questions will depend on the respondent's views about personal responsibility for saving to bridge temporary income losses. A program which is highly responsive to recent income changes, and which distributes a high level of benefits may discourage personal savings and will certainly require a higher expenditure of public funds. In that vein, another question arises: Should individuals whose incomes are reduced for short periods and who later regain their usual higher incomes be required to repay some portion or all of the benefits they have received?

Accessibility

If a program is worth providing at all, then it is desirable that its benefits be readily accessible to those persons who fulfil the eligibility provisions. If administrative or discretionary barriers to program use must be erected, the program's fundamental benefit structure is flawed, and its administrative costs will be disproportionately high. Universal transfer programs, of course, generally have very high take-up rates, but the ideal selective or targeted program would also have a very high take-up rate among those who are eligible for its benefits. High take-up rates in targeted programs result from ready public access to program information and application procedures, ease of compliance with program conditions, program responsiveness to income changes, and absence of administrative "hassles" in establishing eligibility.

Discouraging Program Abuse

While eligible persons should be encouraged to take up the benefits of an income-security program, governments should discourage abuse of the program both by those not eligible to use it and by qualified beneficiaries who claim too high a benefit. It is obviously difficult to estimate abuses of income-security programs, since the essence of program abuse is that it be unreported. However, the highest estimates for social assistance abuse are in the 5 per cent range, and similar estimates are probably appropriate for Unemployment Insurance. This figure is almost certainly no higher than corresponding estimates for the abuse of the personal and corporate income-tax systems. Moreover, it is virtually impossible to abuse some of Canada's major income-security programs such as Family Allowances or Old Age Security (OAS), since it is obviously very difficult to "fake" eligibility in these instances, and since initial-benefit levels are independent of any factor other than eligibility.

Much abuse of income-security programs is the result of inappropriate program design, and it can be much more easily dealt with by correcting a

program's structure than by employing more people to police its beneficiaries. By far the most common abuse of social assistance programs, for instance, is the receipt of small amounts of unreported income by recipients. Commissioners believe that any person who is able to earn a small income to "top-off" benefits should be strongly encouraged to do so, even though the current program design explicitly discourages such initiatives. Indeed, any social assistance recipients who do find part-time work are likely to be penalized by dollar-for-dollar reduction of their benefits, after a small exemption for "work-related expenses". The solution, in our view, does not lie in more strenuous policing, but rather in a change of program design.

Inappropriate program design can, in fact, cost our economy far more and raise our governments' expenditures higher than any level of abuse. Very few of the thousands of Canadians who are presently taking advantage of the ease of re-establishing eligibility for Unemployment Insurance or of UI regional extended-benefits structure and very few of the businesses which employ these people are engaged in anything which could be called "program abuse". Yet the effect of their use of program benefits is to encourage the continuation of quite inefficient industries so that the real economic cost of this aspect of program design is very high.

When levels of social abuse are low, the extent to which it is worthwhile to pursue abusers is questionable. Often it costs governments as much—or more—to catch abusers as they could save by identifying them. This is not to argue that governments should take no interest in discouraging abuse of social welfare programs, and that no enforcement provisions should be implemented. No doubt the threat of detection is a powerful deterrent to abuse that governments cannot afford to surrender. It is important, however, to keep in perspective assessments of the cost-effectiveness of anti-abuse mechanisms.

Respect for the Dignity of Beneficiaries

Income-security programs should impose no unnecessary stigma or harassment on beneficiaries or potential beneficiaries. In general, social insurance, universal benefit- or income-tax/related schemes create the least stigma. As most employable beneficiaries are imbued with the work ethic, their dignity may be enhanced by providing support through employment programs or through premium-financed social insurance; for employable people, there is far less stigma attached to receiving Unemployment Insurance than to accepting Social Assistance. Programs are also likely to be more acceptable if establishing eligibility is simple and requires little probing into the personal lives of applicants. In the past, demeaning procedures have been imposed on applicants in response to taxpayers' concerns about work effort and budgetary economy. It therefore bears repeating that if reasonable incentives can be built directly into the benefit structures of appropriate programs, there should be no need to retain such expensive and inappropriate "safeguard" features.

Administrative Ease and Economy

Income-security programs should be as simple and economical to administer as their other objectives allow. They should not require vast bureaucracies and shelves of program manuals describing the delivery systems. Moreover, readily observable criteria should be used to determine the initial and continuing eligibility and benefit rates of claimants.

This Commission recognizes, however, that while this standard of program design should be held constantly in view, factors exist which must lead to some administrative complexity. The requirements for equity in the selection of program beneficiaries will sometimes require complex judgements about real similarities or differences in various situations. Again, since some abuse of social programs is inevitable, some policing will always be required. Moreover, no matter how adroit the program design, there will always be special cases. These must be dealt with individually, and that necessity, too, requires some administrative complexity.

The Current System

By the standards set out above, the Canadian income-security system demonstrates some serious shortcomings. Before we can deal with these deficiencies, however, we must note several of the major characteristics of the current system.

Categorization and Incentives: Employable and Unemployable Recipients

The current Canadian income-security system is essentially categorical, differentiating between groups which are not generally expected to be part of the labour force and those which are either part of the labour force or expected to be. The categories of people whom Canadians do not expect to participate in the labour force currently include the elderly, the disabled, and single parents with young children. These omissions probably reflect accurately prevailing Canadian values and do not, by themselves, impose unnecessary administrative complexity. Age is very easy for administrators to determine and very difficult for claimants to falsify. Disability can be assessed by means of physical and psychological tests, though some cases fall into an unavoidable "grey" area. Views differ about the point at which a single parent can be deemed employable: some Canadians maintain that the youngest child should be of day-care age, while others argue for school age or even older; the decision hinges, too, on the availability and cost of child-care facilities. Regardless of the different viewpoints expressed, it is feasible to establish reasonably clear-cut criteria for categorizing single parents as employable or unemployable, even if the grounds of decision vary slightly from one jurisdiction to another.

One of the most difficult questions for Canadians to face in dealing with reform of the income-security system is whether or not to provide, for

employable persons, benefits other than those provided by Unemployment Insurance. Benefits to employable recipients could take various forms, including “demogrant” or work-related supplementary provisions for the working poor, and the arrangement of special public or subsidized private employment for unemployed workers. The most important argument in favour of providing some benefits to employable recipients is simply that very great need characterizes this group. In 1985, there are over one million Canadians in families where one-half or more of total family income is derived from work, yet where total family incomes fall below Statistics Canada’s low-income cut-off points. Many of these people would be as well-off, or even better-off, financially to live on social assistance, and it is a tribute to their tenacity and to the strength of the work ethic that they continue at their jobs. They may well be forced into social assistance, however, by even small financial reversals.

There are many reasons based both in equity and in economics to consider providing more significant assistance programs for Canada’s “working poor”. There is, of course, the obvious humanitarian issue of sharing to provide for the needs of these people. Again, over one million Canadian children—one in every five—are members of low-income families, and the majority of these are in working-poor families. We may help these children now and all Canadians later if we provide a better standard of living for their families. We also stimulate our economy when we help working-poor families. They will, perforce, spend almost all of any income they receive, and they will tend to spend it on Canadian goods and services, rather than on imported luxury items.

This Commission believes that in an ideal system, programs would be designed to provide appropriate benefit structures for both employable and unemployable categories of recipients, and we are persuaded that this goal can be achieved. Unemployable persons, for instance, require benefits with a relatively high basic value, for transfers are their basic source of income. For them, program costs might be controlled by a relatively high, but not pre-emptive, reduction rate (that is, the rate at which benefits are reduced for each dollar of other income), since work incentives are less important for groups which society does not expect to work on a full-time basis than for employable persons. Benefits for low-income employable beneficiaries might have a lower basic value because we expect these people to receive some earnings from employment. These benefits should also be reduced at a relatively low rate as earned income increases, so that the effective tax rate on low-income earners—a “tax” rate made by combining income tax and reduction of benefits—does not become prohibitively high. In this way, the use of categories can be made to facilitate a desirable balance of work incentives, adequacy of benefits and program economy.

Delivery Mechanisms: Universality and Selectivity

The current system represents a mixture of “universal” and “selective” benefits. In keeping with the most widely accepted convention, we shall define

selective programs as those which impose a test of need, usually based on the beneficiary's income and situation, *before* the payment of a benefit, with the benefit rate then inversely related to the recipient's income level. Universal programs, in contrast, will be defined as those which distribute the same level of *gross* benefits to all persons with specified traits, irrespective of their incomes. In Canada, all such "universal" programs define their benefits as taxable income. For those programs, the income-tax system performs what is, in effect, an income test after the payment of benefits. If the regular marginal tax rate is not appropriate, then special tax-recovery or "claw-back" devices can be applied to the benefits, although no universal programs in Canada currently do this. Hence, by this definition, a universal program can be as highly redistributive in its net benefits as a selective program, and while it distributes greater amounts of gross benefits, its net budgetary requirements need be no larger than those of the selective program. All major Canadian income-security programs are subject to variation of benefit levels according to income either before or after taxes.

On purely economic or distributional grounds, there is no clear-cut case for preferring one payment method over the other. The issue is essentially one of delivery-system design. This conclusion differs from the popular view that selective programs are inherently more efficient, better targeted, and less expensive than universal programs—a view which fails to consider the taxation provisions that accompany the income-security system.

Since the economic factors are not decisive, other factors should determine the payment methods for benefits. Universal programs are usually superior for ease and cost of administration and compliance, but these advantages could be offset by complexities in the associated tax-back devices if other than normal marginal rates of taxation are considered necessary. Indeed, with special categorical benefits such as partial disability benefits, it will often be easier to apply the income test in advance of payments, using selective methods. The reason is that to be effective, a holdback must be integrated with tax withholding at source, and employers then have to know which of their workers are receiving the categorical benefits. This requirement would add to the complexity of the system, creating a problem which would bear particularly heavily on small business.

Other considerations tend to promote the use of universal programs. Universal payments are better suited to preserving the dignity of beneficiaries, and they have higher take-up rates. Recipients face no delays in the processing of benefit claims because gross benefits are paid on a continuing basis. Net benefits can respond quickly to income changes, since any income testing is performed often, through tax withholding at source. There are, of course, some advantages in selective programs. They reduce the visible cost of government services since, by performing their income-testing function before benefits are delivered, they minimize cash flows. They may also prevent the addition of some complexities to the tax system, and if governments are willing to establish the appropriate administrative structures, they can be made rapidly responsive to clients' needs.

The more purely political pros and cons of universal programs are more difficult to assess. Some observers argue that universal programs improve

social cohesion and engender broad support because initial benefits are paid to very large numbers of people. Others suggest that while this was true in a period when “big government” was acceptable and even popular, universally delivered benefits now serve as frequent reminders of the size of government for a middle class no longer supportive of very large-scale administration. While Commissioners are mindful that the public view of government is more uncertain than it once was, we think, on balance, that the arguments in favour of universality are more persuasive than those against it, for most types of program.

The preceding analysis of the principles of universality and selectivity pertains to income-support programs other than social insurance. This latter group of programs, including UI and the CPP, is based on a different rationale which makes a different type of benefit structure generally appropriate. The essential purpose of governments in paying social insurance benefits is not to redistribute income. Rather, in their classic form, these benefits are intended to provide a form of insurance, under which individual workers and their employers pay premiums which approximate the cost of the workers’ *expected* future benefits. Individuals collect benefits by meeting pre-specified conditions, such as being unemployed or reaching retirement age; the benefits they receive, at least up to a maximum limit, vary directly with their previous income and are taxable as income.

Taxes and Transfers

Just as the current system of income support is a mix of universal and selective programs, it is also a mix of tax and transfer payments. We shall examine the relationship between Canada’s income-tax and transfer-payment systems by using family benefits as an example. The family-benefits system consists of a mixture of tax exemptions, tax credits and universal or demogrant payments.

Child tax *exemptions* in the income-tax system perform horizontal equity functions by relieving families with children of some tax liability and by differentiating taxes according to family size. On the basis of a progressive set of tax rates, however, the exemptions provide larger tax savings for households with higher incomes and hence reduce vertical equity among families.

The refundable child tax *credit* is a selective program which has a more explicitly redistributive effect by paying out funds, or offsetting taxes due, for low- to middle-income families with children. Child tax credits are an example of “refundable” tax credits, payable even to families who actually pay no taxes. They are structured so that maximum benefits are paid to all families with children, up to a specified annual income (currently, just over \$26 000); above that point, they are reduced by \$5 for every \$100-increase in income. Since they pay higher net benefits to lower-income families, they are defined as “progressive” in their effect, and they contribute to vertical equity among families with children. They are selective, since income is considered before the size of the benefit is determined.

As "demogrants" or universal payments, Family Allowances are payable to all family units with dependent children, regardless of income, subject only to being accounted as taxable income. Since Family Allowances are subject to taxation in a progressive income-tax system, they provide smaller net benefits to higher-income families and are hence moderately progressive in their impact.

The three fiscal provisions for dependent children are a microcosm of Canada's current income-security system. They use three different delivery systems, which differ in their distributional effects. They are highly complex in their interactions so that families have great difficulty in sorting out overall effects. One major component, the tax exemption, is strongly regressive in effect.

If we add to this arrangement the effect of another component of what might be called the "family-benefits system", the overall result becomes even more curious. Canada's personal income-tax system currently provides a "married" exemption with a value, in the 1984 taxation year, of \$3470. The married exemption is a deduction from the income of the breadwinning spouse in a single-earner family, apparently in recognition of the dependent status of the other spouse. In 1917, at the time that this exemption was put in place, Canadian society consisted largely of single-earner families with a dependent spouse at home. In these circumstances, the effect of the married exemption was beneficial; its effects are much less so, however, in a society where some 66 per cent of married women are members of the labour force. In effect, this exemption creates a situation where the first \$3470 of a second earner's income is taxed at the first earner's higher marginal tax rate, a factor only partially corrected by the personal exemption available to the second wage earner. Moreover, because this benefit is an exemption rather than a credit, it provides no help at all to really poor families which have incomes below tax thresholds. It cost the federal treasury approximately \$1.4 billion in 1984 with a further cost of \$0.75 billion to provincial treasuries.

Finally, the personal exemption deserves comment. In 1984, this feature of our tax system allowed a basic deduction of \$3970 from the taxable income of each individual taxpayer. The exemption does raise the tax threshold for individuals so that poorer Canadians may escape personal income taxation altogether. However, if it is intended to provide support or relief to individual Canadians, it has rather perverse effects. In fact, it delivers an effective benefit of nearly \$2000 to all higher-income individuals who are in the 50 per cent marginal tax bracket, while to very low-income individuals whose marginal tax rates are more likely to be in the 20 per cent range, it gives an effective benefit of only \$800. For very poor Canadians who have no income subject to taxation, it provides no benefit at all. It costs the federal treasury \$9.4 billion annually and provincial treasuries \$4.7 billion. As we shall see below, the vertical equity effects of the personal exemption might be considerably improved by converting this "benefit" to a refundable tax credit — in effect, a guaranteed income.

When the whole-family/personal-benefit structure is taken together, its effect is regressive. This fact, however, does not emerge clearly unless we view the structure as a combination tax and transfer-payment system. That system

provides less benefit than it might to those poorer families and individuals who really need help, and it distributes unnecessary benefits to high-income earners. Thus, for example, the combination of personal, married, child and work-expense deductions, Family Allowances and the Child Tax Credit yields a net benefit of approximately \$5035 per year to the \$100 000 single-earner/two-child family in Ontario. By contrast, a two-earner/two-child family with \$25 000 in total earned income receives from the system only \$2240 in net benefits. Moreover, the system constitutes a real disincentive to labour-force participation by lower-income second earners, generally women. It is an example of a piecemeal program put in place when our labour-force structure, based on single-earner families, was far different from that of the 1980s.

Overview

Canada's present income-security system has been criticized on a number of highly significant counts. In brief:

- It is ineffective. In spite of an expenditure of billions of dollars there are still many Canadians living in poverty, while many income-security payments are made to people who are not poor.
- It is too complex. There are too many programs and too many people administering them. It is often difficult for Canadians to discover what benefits they qualify for, and the interaction of programs results in many unforeseen pitfalls for beneficiaries.
- It creates work disincentives. This situation may derive from three problems. Benefits are unrealistically high for some recipients or are paid for too long a period. The marginal tax or reduction rate of the system is extremely high, sometimes over 100 per cent. The benefits paid may encourage people to remain tied to unproductive or non-competitive industries and may actively discourage them from taking advantage of better employment opportunities.
- It is inequitable. Because significant parts are based on tax exemptions rather than on direct transfers or tax credits, more benefits go to some high-income than to some low-income families. This anomaly appears, particularly, when the entire tax and transfer system is taken into account, including all of the tax breaks generally used by middle- and upper-class Canadians.
- The sustainability of the system is sometimes claimed to be uncertain because of the age structure of our population, projections of continuing high levels of unemployment, and assumed perverse effects of demographic change.

In sum, these considerations suggest that our Canadian income-security system is badly flawed. This is hardly surprising. Its provisions were constructed piecemeal, in combination with sometimes unco-ordinated adjustments to Canada's personal income tax. The amalgam may have been partially suitable for the Canadian society of 1950, but it is much less appropriate for that of the later 1980s. The issue is not whether reform is necessary, but rather, how deep and rapid that reform must be.

Reforming the System

There are a number of features which Canada should strive to incorporate in a better system of income-security. On the basis of the considerations raised above, the following aims should be among them:

- Better matching of benefits to needs
- More appropriate incentives for Canadians to participate in work, training or education
- Simplification of the system so that it becomes easier for Canadians to comprehend
- Appropriate integration of tax, income transfer and social insurance systems
- Ease of administration
- Provision for the personal dignity of the individual
- Rapid responsiveness to changes in situations.

Commissioners have not included lower cost among the imperatives just listed. While it is possible that a system rationalized along the lines suggested above could cost somewhat less than our present system, it must be remembered that there are a great many Canadians who do need some form of assistance. Moreover, as we have indicated earlier, while we do see short-term budgetary problems, we do not fear for the future sustainability of our income-transfer programs, and we do not believe that those short-term budgetary problems should be solved by large reductions in the resources redistributed through income transfers. Indeed, we view continued adequate levels of funding as essential to the achievement of those adjustments which will ensure a more prosperous future for all Canadians.

The features suggested might be achieved through a set of comprehensive reforms of the income-security and personal income-tax systems or through a more incremental series of reforms. They might depend on a demogrant delivery system which makes basic payments to everyone, regardless of income, and then adjusts net benefits to needs by way of taxation. Alternatively, they might be delivered through the tax system, by adjusting the taxes of members of the labour force and by providing refundable credits to those outside its bounds or those not subject to tax withholding at source. We have already seen that the difference between a demogrant and a tax-based delivery system is essentially one of mechanism; the benefit structure can be the same under either arrangement.

Partial Reforms

While Commissioners believe, for reasons to be detailed below, that it is desirable to consider a comprehensive reform of Canada's income-security system, the reform of several of its components or sub-systems could prove effective in bringing Canadians closer to achieving a number of the objectives set out earlier. For this purpose, the overall income-security system may be broken down into sub-systems directed to help:

- The elderly
- Families with children

- Unemployed, but employable, Canadians who are not receiving UI benefits
- Persons in need who are not expected to work.

The last two sub-systems are dealt with on a joint federal-provincial basis under the Canada Assistance Plan (CAP). Smaller sub-systems also exist to assist groups such as veterans or Native people, and a number of quite specialized programs and services provide help to relatively small numbers of individuals. While such programs are vitally important to those falling within their purview, this Commission cannot deal with them here; indeed, more general reform may make some of them unnecessary.

Pension Policy and the Elderly

No element of our income security system has been more actively debated in recent years than pensions. Since the late 1970s, a long series of reports by task forces, advisory bodies and Royal Commissions have analysed our retirement-income system and highlighted its deficiencies. Business associations, labour organizations, representatives of pensioners, welfare groups and women's organizations have all pressed their views on government. A National Pensions Conference was held in 1981, and government deliberations have continued since then. Canadians have, in effect, been engaged in a "great pension debate" for the better part of the decade.

This debate has been fuelled by a wide variety of concerns: the present financial plight of many elderly Canadians; the impact of inflation on private pension benefits; the long-term implications of demographic change for the financing of future pensions; the need to adapt our pension arrangements to the evolving role of women in modern society. Because of the diverse concerns underlying it, the debate has ranged widely, touching on both public and private pensions and on the appropriate balance between them. In the case of private or occupational plans, attention has focused on the incomplete coverage of the labour force, vesting and portability, and on the protection of benefits from inflation. Issues relating to public programs have ranged from the adequacy of benefit levels to the financial consequences of the aging of Canada's population over the next half century.

The scope of the pension debate itself has posed a major challenge, since pension reform in this country requires a particularly high level of consensus. This is because the division of authority over pension policy between the federal and provincial governments is exceedingly complex, even by Canadian standards. Most occupational plans are subject to provincial regulations; but the federal Pension Benefits Standards Act applies to sectors of the economy subject to direct federal jurisdiction, and the provisions of the federal Income Tax Act are critical to all private plans. In the area of public pensions, the federal government is responsible for Old Age Security and the Guaranteed Income Supplement. But amendments to the Canada Pension Plan require the approval of two-thirds of the provincial governments, representing two-thirds of the total population—a requirement even more exacting than the general amending formula for the Constitution. Moreover, the Quebec Pension Plan falls under the exclusive jurisdiction of the Quebec government.

It is not surprising, therefore, that the debate has been a protracted one, and that actual changes have been limited. Nevertheless, there are signs of emerging consensus. While the package of likely reforms is much more limited than the champions of major change have been advocating, it does represent an important advance on existing arrangements.

Points on which agreements seem possible include reforms to the minimum standards for private pension arrangements. Some of these are:

- **Earlier vesting.** Employees should have a right to benefit from their employers' contributions as well as their own. In most jurisdictions, the present regulations do not require vesting until an employee has ten years of service and has reached 45 years of age. There is widespread agreement on the need for earlier vesting although not, perhaps, on the exact formula. For the most part, the debate revolves around proposals for vesting after either two or five years. Most participants in the debate would seem to agree that the age standard should be eliminated.
- **Portability.** Important improvements in the portability of pensions are possible through such mechanisms as locking funds into personal retirement savings accounts, or devising better protection for deferred pension benefits. Both portability and vesting improvements seem particularly important to Commissioners, since we believe that in the future, Canadians are likely to face stronger requirements to change jobs or careers more frequently.
- **Inflation protection.** While this issue remains more controversial, the proposals for partial indexing of future pensions, advanced by the federal government and the province of Ontario in 1984, represent a solid basis for progress.
- **Survivor benefits.** Survivor pensions are not required under most of our pension-standards legislation, and many plans do not provide them. This is one reason for the financial plight of many elderly women, and any reform package must require adequate protection for survivors.
- **Credit-splitting.** The splitting of pension credits on marriage breakdown, unless the courts or the parties themselves provide otherwise, is in keeping with the contemporary principle that marriage is a partnership.
- **Part-time employees.** Pension benefits should be extended to regular part-time employees. This principle accords with Commissioners' earlier emphasis on flexibility of working time.

In addition, there is scope for greater flexibility in the provisions governing tax assistance to personal retirement savings.

Similarly, agreement seems possible on important elements of our public pension plan, especially the Canada and Quebec Pension Plans. These include:

- **Maximum pensionable earnings.** Government should ensure that these earnings reach the target level of the average industrial wage within the next two years.
- **Credit splitting.** Credit-splitting on marriage breakdowns, which is now voluntary, should be compulsory, unless both spouses formally waive the right.

- Contribution rates. Federal and provincial governments should agree to a schedule by which increased contribution rates can be phased in slowly, in order to avoid particularly sharp increases at the turn of the century.

Other proposals in this area, including the introduction of a pension for homemakers, are more controversial, and early agreement on them is less likely.

In light of the present extensive debate over the pensions system, this Royal Commission did not attempt another intensive study of this topic. The emerging consensus among governments will certainly not solve all the problems in our pensions system, but it does represent a step forward. Commissioners urge that the federal and provincial governments proceed as rapidly as possible to agree on reforms. It is time to move from debate to action on pensions.

With respect to OAS/GIS, this Commission believes that current provisions are only minimally adequate. The most recent round of GIS increases, raising the incomes of single elderly people to Low-Income Cut-Off levels should have relieved the most extreme cases of hardship. We do note the anomalous situation created by the pension income and the "over-65" deduction from income for taxation purposes. Like all deductions, these deliver benefits disproportionately to the better-off, but the scarcity of high incomes among Canadians over 65 makes their effect relatively minor.

Commissioners do wish to emphasize, again, however, that Canadian public pensions are very low by international standards. The combination of low income among the elderly and the low level of these benefits means that most governments should not look to these areas to effect reductions in government expenditures.

The Family-Benefits System

In discussing the interrelationships between our tax and transfer systems Commissioners noted a number of faults in the family-benefits system. This system, it will be recalled, consists of Family Allowances, the Child Tax Credit and the Child Tax Exemption. The Child Care Expense deduction and the "married exemption" may also be considered part of this system. The former is a very small program by income-security standards, with a budget of \$100 million and 370 000 beneficiaries; we shall consider it briefly below when we look at daycare. We shall also suggest the elimination of the married exemption as part of our comprehensive reform package. We might note in passing that to roll the tax expenditures from the married exemption into child-benefit reforms considered below would enrich the child-benefit package by nearly 30 per cent.

A range of options for dealing with family benefits has been discussed publicly, and in its 1985 discussion paper on benefits for children and the elderly,¹ the federal government has suggested two possibilities for reforms. Commissioners present here two examples of the type of change that has been under consideration. Option 1 is very close to the "alternative option" put forward by the federal government in its consultation paper.

Option 1: Providing Maximum Assistance to Low-Income Families. The set of options most often discussed for achieving change in the family-benefits system is one in which Family Allowances and Child Tax Exemptions are sharply reduced. The savings effected would be put into an increased Child Tax Credit. Let us consider, for example, changes which:

- Reduce Family Allowances from \$360 to \$240 per year
- Reduce the Child Tax Exemption from \$710 to \$240 per year
- Increase the Child Tax Credit from \$343 to \$770 per year
- Reduce the turning point (at which eligibility for program benefits commences) from an annual income of \$26 330 to one of \$20 000.

This option would target the system more sharply and still permit a Government of Canada cheque to be delivered monthly to all eligible mothers. Table 19-2 indicates the effect on one-earner/two-children families in Ontario. Single-earner families with annual incomes under \$29 000 would gain from this option, while higher-income families would lose.

TABLE 19-2 Illustration: Effects of More Selective Program on One-Earner/Two-Children, Ontario Family, 1983

Family Earnings (\$)	Family Allowance (\$)	(net)		Total Benefits (\$)	Change in Benefits (\$)
		Child Tax Exemption (\$)	Child Tax Credit (\$)		
6 000	480	0	1 540	2 020	+650
12 000	359	121	1 540	2 020	+465
18 000	345	135	1 540	2 020	+443
24 000	338	142	1 340	1 820	+232
30 000	302	178	1 040	1 520	- 17
36 000	302	178	740	1 220	- 24
42 000	267	213	440	920	-111
48 000	267	213	140	620	-391
48 000+	267	213	0	480	-531

Source: Commission calculations based on Survey of Consumer Finances.

Overall, the distribution of "winners" and "losers" is about 50/50, with a fairly equal balance between amounts lost and gained. The system's changes allow families with \$6000 or less in earned annual income to gain \$650 and families in the \$10 000- to \$20 000-income range to gain about \$450. Families with single earners and incomes over \$50 000 will lose slightly over \$530 per year.

Other variants of Option 1 might be developed by manipulating the various programs. For example, the elimination of Family Allowances and Child Tax Exemptions or the application of sharply increased tax-back rates to above-average incomes would greatly reduce program costs and improve overall

targeting, but sharply reduce benefits for families in middle-income ranges. Conversely, increasing Family Allowances while eliminating the tax exemptions and credits would permit some increase in net benefits to low-income earners and would also preserve some transfers, even to higher-income families with children. This arrangement would maintain some element of horizontal equity.

Option 2: Protecting Poor Families While Achieving Fiscal Savings. An option similar to Option 1, but also incorporating reductions in government expenditure, can easily be derived. Let us consider, for example, changes which would:

- Reduce Family Allowances from \$360 to \$240 per year
- Reduce the Child Tax Exemption from \$710 to \$240 per year
- Increase the Child Tax Credit from \$343 to \$563 per year
- Reduce the turning point (at which eligibility for program benefits commences) from an annual income of \$26 330 to one of \$20 000.

This option would reduce government spending by \$380 million per year, while maintaining most of the other features of the system. Table 19-3 indicates the effect on one-earner/two-children families in Ontario, and Figure 19-1 illustrates the same effect in graphic form: single-earner families with annual incomes under \$22 000 would gain from this option, while higher-income families would lose.

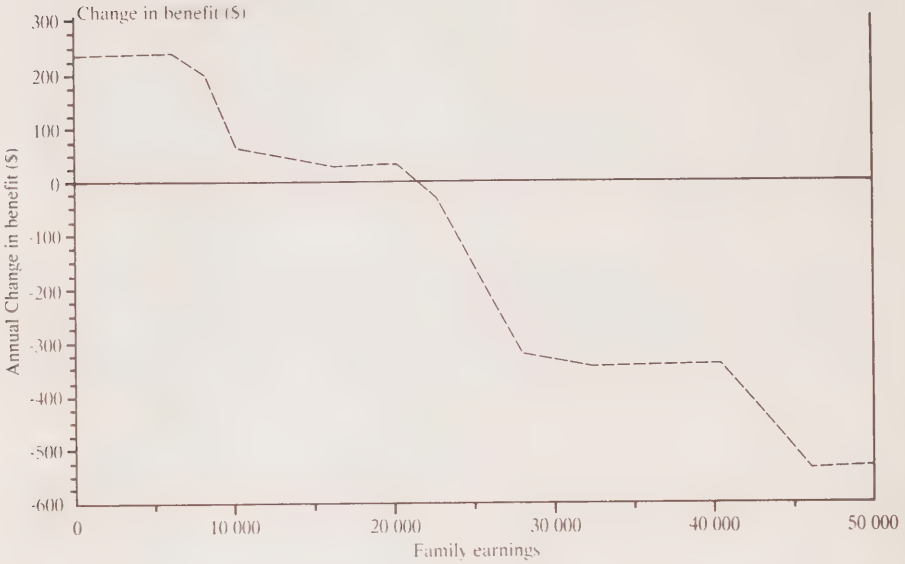
Figure 19-2 complicates the issue further – but makes it more realistic – by including two-earner families. These families do not become net losers in the system until they reach an income of \$34 000 per annum, and their losses are insignificant until they earn \$40 000 per annum. Overall, the distribution of “winners” and “losers” is about 60 to 65 per cent losers and 35 to 40 per cent winners. Many of the winners gain rather little; many of the losers forego

TABLE 19-3 Illustration: Effects of an Expenditure Saving Program which Protects the Poor in One-Earner/Two-Children, Ontario Family, 1983

Family Earnings (\$)	Family Allowance (\$)	Child Tax Exemption (\$)	Child Tax Credit (\$)	Total Benefits (\$)	Change in Benefits (\$)
6 000	480	0	1 126	1 606	+236
12 000	359	121	1 126	1 606	+51
18 000	345	135	1 126	1 606	+30
24 000	338	142	1 026	1 506	–282
30 000	302	178	626	1 106	–431
36 000	302	178	326	806	–438
42 000	267	213	26	506	–525
48 000	267	213	0	480	–531
48 000+	267	213	0	480	–531

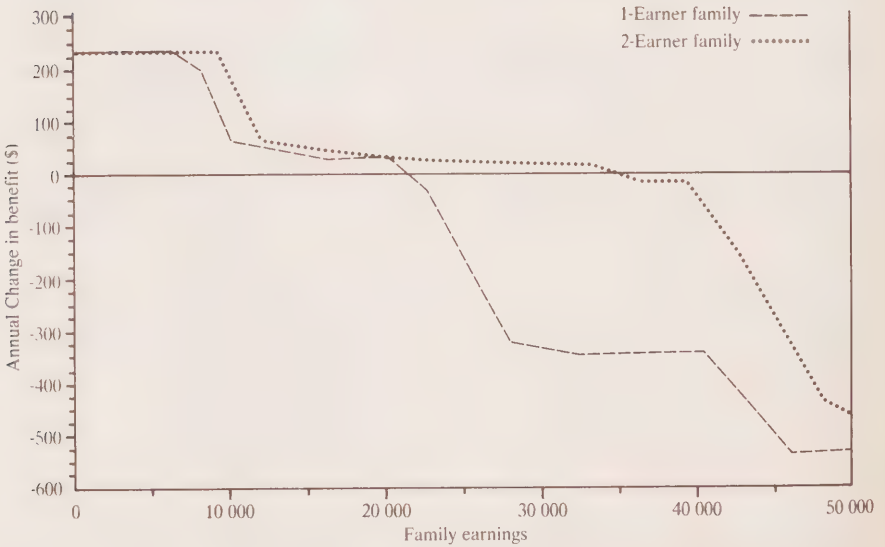
Source: Commission calculations based on Survey of Consumer Finances.

FIGURE 19-1 Family Benefits, Option 2, One Earner/Two Child Ontario Family
 (Changes in benefit levels in relation to family income, 1984)



Source: Commission calculations based on Survey of Consumer Finances.

FIGURE 19-2 Family Benefits, Option 2
 (Changes in benefit levels in relation to family income, 1984)



Source: Commission calculations based on Survey of Consumer Finances for Ontario families.

substantial amounts. As we saw with Option 1, to create a system where winners and losers are about evenly balanced, we must move very close to the point of fiscal neutrality where savings are eliminated. Given the relatively small amounts which can realistically be saved by systems such as Option 2, and given the very favourable redistributive effect of the previous option, this Commission favours Option 1. However, this and the other reforms suggested in this section are really relatively minor in an income-security system which could be much improved.

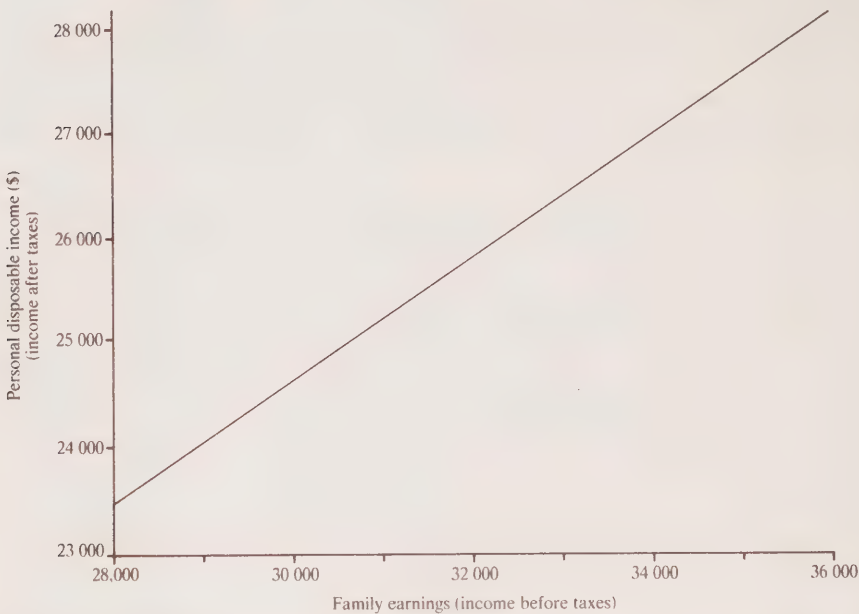
Option 3: The Wrong Way to Reform. Option 3 offers an extreme example of the Option-2 variant just described. It is presented here to illustrate what happens when simplistic "solutions" are applied to complex systems. It consists, very simply, of cutting off all child benefits from families with above-average earnings. To illustrate this measure graphically, we offer two figures. Figure 19-3 shows before-and-after-tax income for families with average annual earnings (\$32 000). Figure 19-4 demonstrates the effect of cutting off all child benefits when annual family income reaches \$32 000. The result is that disposable annual income (after tax) drops to \$24 500 from \$25 900 as the total family income rises from \$32 000 to \$32 001 and then climbs at the same rate as before from the new lower level. The result is that until family income rises above \$34 500, the family is worse off than it was with annual earnings of \$32 000. This "notch" effect was a common problem of early welfare systems, and it is still significant occasionally. For example, a family trying to earn its way off social assistance may face real "tax" rates which are greater than those faced by families earning over \$100 000 per year. The problem is created by a combination of reductions in their cash payments and elimination of their eligibility for some services such as non-insured medical programs. These "notches" in income security and social support systems are the classic example of the "poverty trap" which many low-income Canadians face.

Option 3 could be improved by applying graduated reductions in benefit levels to those whose incomes are above the average family level, but this modification would make it identical in effect to Option 2. In its simplest form, Option 3 does generate very large savings, amounting annually to approximately \$1.3 billion, but most of these savings are generated in the notch area. One might question the desirability of reducing the disposable income of the "average" Canadian family by over 5 per cent in order to implement a program design which creates no net winners, offers no redistribution of income to those who need it most, and establishes a potentially significant work disincentive. For these reasons, only options similar to Option 1 or 2 should be considered.

Social Assistance and the Canada Assistance Plan

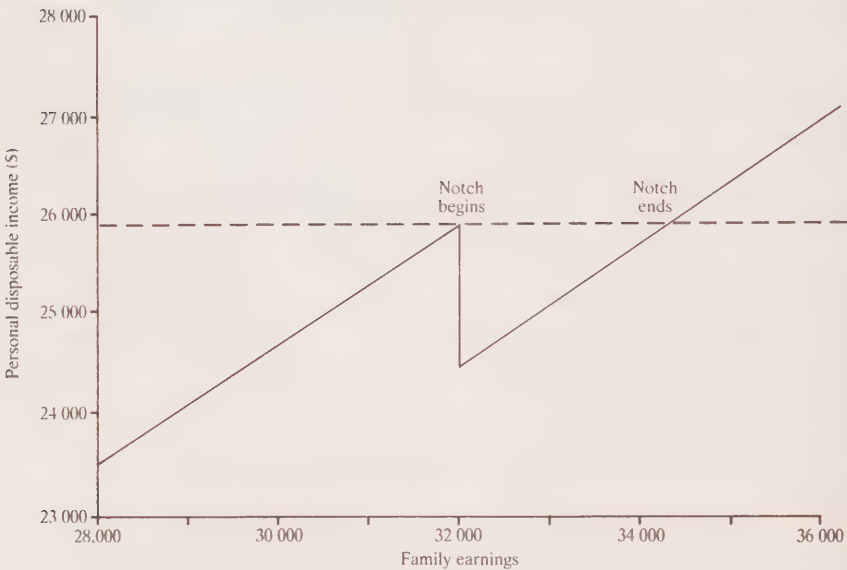
Under the Canada Assistance Plan (CAP), Canada's federal government contributes 50 per cent of the cost of social assistance, welfare services and work-activity programs delivered by provinces and municipalities. Approximately 73 per cent of the federal transfer (\$3.1 billion) goes to support

FIGURE 19-3 Current Income Before and After Taxes and Transfers



Source: Commission calculations based on Survey of Consumer Finances based on a 1-child Ontario family.

FIGURE 19-4 Impact on Disposable Income of Cutting off Child Benefits from Families with Above-Average Income



Source: Commission calculations based on Survey of Consumer Finances based on a 1-child Ontario family.

income-security programs which supply basic needs such as food, shelter, clothing, fuel, nursing-home and some health-care needs to approximately two million persons. The remaining federal and provincial expenditures in this area (\$1.1 billion) support child welfare, children's institutional care, and such welfare services as day care, home care for the elderly, counselling, and community programs for the disabled and aged; they also fund research and administration.

Commissioners believe that there may be considerable scope for reform of the income-transfer (social assistance) component of CAP programs. Since social assistance is the recourse for many Canadians who are unable to gain income from employment, it is the ultimate "safety net" in modern income-transfer arrangements.

The Canada Assistance Plan was intended to contribute towards the costs of provincial social assistance programs that provided adequate assistance to persons in need, regardless of the cause of need. The exercise of wide discretion in the application of this criterion, however, has brought about an uneven and, for some groups, an inadequate system of assistance across our country. The result has been:

- Wide variation in assistance levels
- Significant increases in the numbers of people relying on charitably financed food banks and hostels
- Discriminatory treatment of some classes of recipients of assistance, which may contravene Sections 15 and 36 of the Canadian Charter of Rights and Freedoms in the Constitution Act, 1982.

In addition, social assistance benefits under CAP normally produce strong work-disincentives. Above a low exemption level, benefits are generally reduced, dollar for dollar, as earned income accrues, an arrangement which effectively imposes a 100 per cent tax rate on earnings. While this policy is in some ways consistent with a "last resort" program for beneficiaries who are not expected to work, the majority of social assistance recipients are single mothers and the disabled. Many of these people could earn modest amounts and would no doubt prefer to do so, but they are discouraged by the fact that, in contrast to better-off Canadians, they cannot really improve their situation by working. A number of reform possibilities should be considered for the CAP.

The social assistance components of CAP should be made somewhat more uniform from coast to coast. Variations in benefit levels of up to 100 per cent are not uncommon among provinces. In 1983, for example, average monthly social assistance levels for two-adult/two-children families varied from \$1171 in Alberta to \$689 in New Brunswick; for single employable recipients, these levels ranged from \$535 in Saskatchewan to \$103 in New Brunswick, \$180 in Quebec and \$226 in Newfoundland. While there are considerable discrepancies in cost of living and net per capita income for non-welfare recipients across Canada, they are far less extreme than variations in social assistance.

It seems clearly desirable to amend the current CAP stipulation that beyond the exemption level (\$190 per month for a two-adult family), federal cost-

sharing will assume a 100 per cent/tax-back rate. A more appropriate procedure would be to establish lower boundaries for the tax-rate (perhaps 75 or 50 per cent) of shareable benefits. Since social assistance programs are provincially controlled, the federal government should try to negotiate with provinces satisfactory arrangements to this effect; failing that, it might require provinces wishing to be eligible for federal cost-sharing to submit plans that would feature tax-back arrangements which would create work incentives for beneficiaries.

Twice in the late 1970s, federal and provincial governments came very close to agreeing to divide the social assistance and social service components of the CAP into separate financing arrangements. This was a worthwhile initiative, and Commissioners recommend that renewed attempts be made to achieve agreement so that the somewhat different program-design features required to deal appropriately with each of the two components may be accommodated, although Health and Welfare Canada has, by the creation of separate guidelines for cost-sharing under the social service provisions of the Act, already moved some distance towards this approach.

Comprehensive Reforms: The Universal Income Security Program

All of the proposals considered so far are essentially piecemeal reforms of a system built up over some 60 years. While there is much to be said for incremental reform, it also creates a number of problems. If, for example, only the family-benefits system is reformed, with the primary objective of distributing more money downwards to lower-income groups, the effect will be to shift money among different income classes of families with children, while single persons and families without children will share none of the burden. This rather narrow approach to equity and sharing may be undesirable unless Canadians believe that middle- and upper-income families with children should bear all the costs of reform.

The narrow base of most partial reforms limits the options available. If reforms are made only to the family-benefits system as narrowly defined, the total amount available for reallocation, provided that the married exemption is left untouched, is \$3.4 billion. While this is hardly a trivial sum, it represents only 5.5 per cent of the total of transfers and tax expenditures listed in Table 19-1, and it improves the system only for low-income families with children. While such a step is laudable enough, Commissioners believe that it is possible to do better.

A narrow base naturally limits the number of programs which can be reformed or replaced. A more "rational" set of social programs would replace many of our present tax exemptions (because they are regressive) and would perhaps apply higher-than-usual marginal tax rates at the high end of the scale to several universal transfers, in order to tax back the benefits accruing to high-income earners. This action would considerably simplify the system and effect a better distribution of benefits.

Commissioners believe that in view of these considerations, a more complete rationalization is a worthwhile target in the reform of our income-

transfer system. This will mean replacing much of the present complex range of programs with one transfer, delivered either through the tax system, adjusted to pay out benefits monthly, or through separate cheques, a method similar to that used in current Old Age Security programs. For design reasons to be considered below, where recipients depend wholly or almost-wholly on transfer income for survival, it will be necessary to add a second program or “tier” of benefits to “top up” payments. In keeping with our earlier analysis, Commissioners suggest that this system should provide:

- An adequate survival level of benefits to those who cannot be expected to work
- Income supplements for workers whose earned income is not sufficient to meet their family needs
- A simple, more easily understandable system of taxes and transfers
- A tax-back structure which will not discourage those who are able to work their way out of the need for benefit payments
- No increase in the costs of transfers and tax expenditures
- Assurance to Canadians that they will have an adequate “safety net” as Canada undertakes the adjustments necessary to compete successfully in the modern world
- Basic equity among Canadians in different family and life situations.

Comprehensive income-transfer/reform packages are usually described as “Guaranteed Annual Incomes” (GAIs). That term, however, is not entirely appropriate for the type of reform this Commission wishes to suggest. The term ‘Guaranteed Income’ often connotes a program with a very high “guarantee level” (that is, a high level of benefits for those who have no other income) and a relatively high reduction rate (effective tax rate) for beneficiaries. Commissioners believe that an option which delivers a relatively low guarantee level, but which also has a lower reduction rate combined with a special “top-up” for those who cannot be expected to work, will produce a more desirable combination of income support and work incentives. Such an option would not provide a payment high enough to encourage employable people to rely wholly on it, and it would not tax back benefits on earnings at a rate high enough to discourage the earning of income. We prefer to describe such a package as a “Universal Income Security Program” (UISP).

A wide variety of options of this type is available. It is not the purpose of this Commission to determine which is the best of them, but rather to indicate the direction in which we believe government might move. That direction might see the elimination of:

- The GIS (but not OAS)
- Family Allowances
- Child Tax Credits
- Married exemptions
- Child exemptions
- Federal contributions to social assistance payments
- Federal Social Housing Programs.

Commissioners believe that these programs should be replaced by a universally available income transfer. We note particularly, however, that current levels of OAS should be maintained. Among programs for the elderly, only GIS is replaced in this proposal, since it is the more directly income-tested component of the Old Age Security system. OAS payments themselves should be maintained since the vast majority of Canadians have based their retirement planning upon them. By way of example of overall reform packages, we provide here two possibilities, defined imaginatively as Option A and Option B.

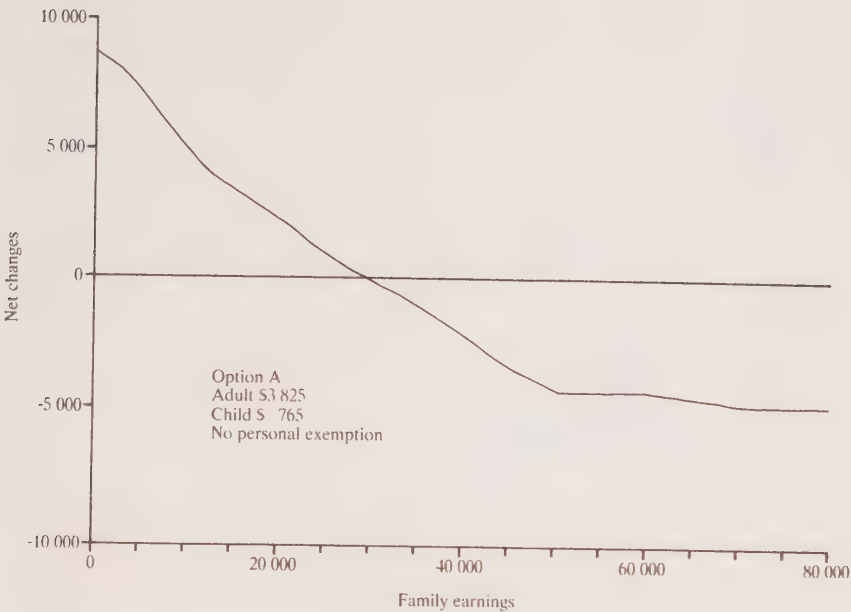
In Option A, the personal income-tax exemption would also be eliminated, and changes would be made to programs as listed above. Based on mid-1984 figures, a guaranteed income of \$3825 per annum for each adult and for the first child in a single-parent family, and \$765 for any other child can then be provided for all Canadians, without incurring any extra costs. In Option B, the personal income-tax exemption is left in place, which means that the guaranteed income would drop to \$2750 per adult (and for the first child in a single-parent family) and \$750 per child. In order to maintain at least the current income level of those elderly with no source of income other than OAS benefits, the basic guarantee for single persons over 65 years of age should be the same as that in Option A (\$3825); in addition, the tax-back provision should be waived for single pensioners. A tax-back rate of 20 per cent is applied uniformly to benefits in both systems, and the current personal income-tax/rate structure is assumed to remain intact.

Figure 19-5 illustrates that in Option A, one- or two-earner/two-children families with earned annual incomes below \$30 000 will gain. Gains of \$5000 to \$7000 are possible among those families with earned incomes in the \$8000 to \$10 000 range. However, gains at zero or very low incomes may well be overstated because the effects of loss of housing benefits and of part of social assistance are not included here. The losses can be quite substantial, approaching \$5000 for families with incomes over \$50 000. Figure 19-6 (Option B) illustrates that to leave the personal exemptions in place reduces this loss for upper-income families to the \$1000 range, but also reduces net gains in the \$8000 to \$10 000/earned-income family to \$4000 to \$5000.

Figure 19-7 illustrates that in Option A, two-earner/two-children families with earned annual incomes below \$30 000 will gain. Maximum losses of about \$3800 occur for families earning over \$40 000 annually. Most important, families in the "working-poor" range, with earned incomes of between \$8000 and \$12 000, will also gain amounts in the \$5000 to \$7000 range. Figure 19-8 illustrates that if we leave the current personal exemption intact, gains in the "working-poor" range are reduced somewhat, to the \$4000 to \$5000 range, but upper-income losses are sharply reduced to the \$1000 range.

These options are meant as illustrations only. An almost infinite variety of guarantee levels and tax-backs can be considered, and experience with the programs will doubtless lead, over time, to design changes. Indeed, it is an important feature of these comprehensive reform proposals that they are flexible, and that the parameters can be amended to provide predictable patterns of income redistribution which will contribute to the achievement of

FIGURE 19-5 Option A: Change in Personal Disposable Income in One-Earner/Two-Children, Two Adult Family, 1984

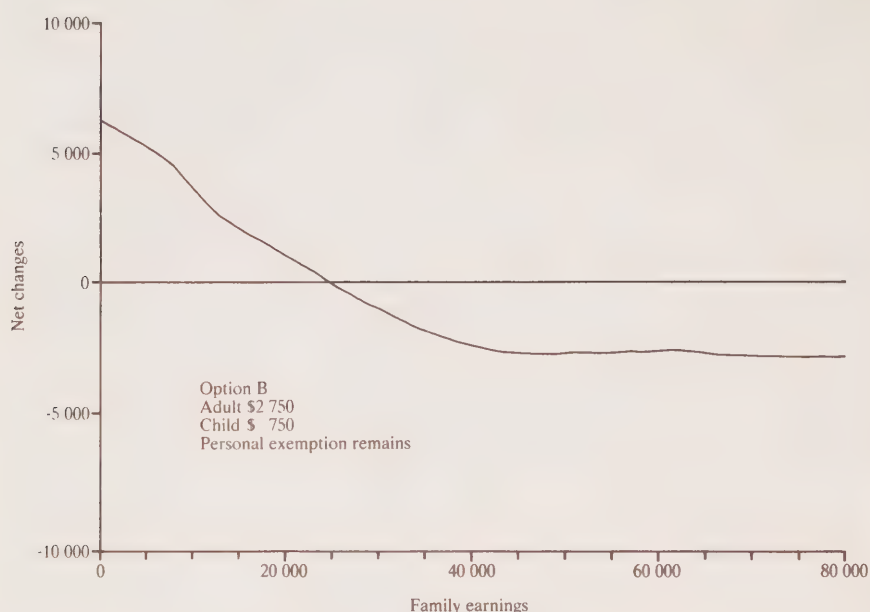


Source: Commission calculations based on Survey of Consumer Finances for Ontario families.

our goals of equity, security, sharing and opportunity, and hence to growth through consensus. The examples also illustrate that within existing cost limits, it is possible to design programs which will provide substantially enhanced levels of security for low-income Canadians, without necessarily imposing prohibitive costs on high-income earners. They also make quite clear another immutable fact: it is not possible to provide higher benefits at the bottom of the income scale without reducing net incomes at the middle and higher levels.

The income guarantees operative at very low-earnings levels are not necessarily adequate to meet all family needs unless some additional support is provided. This occurs because our preferred design options use relatively low levels of guaranteed incomes combined with relatively low tax-back rates in order to give desirable work-incentive features and in order to extend benefits to working-poor families. Individuals and, particularly, families, who have very little income except that provided by the UISP, would still be eligible for provincial or municipal social assistance top-ups as a second tier of benefits, since the funds that those governments currently contribute to social assistance are unaffected by our proposals. These top-ups could continue to be subject to high tax-back rates because they would constitute only about half the benefits for extremely low-income families; the other half would come from the federal supplement, with its low tax-back rate. Thus, for a two-

FIGURE 19-6 Option B: Change in Personal Disposable Income in One-Earner/Two-Children, Two Adult Family, 1984

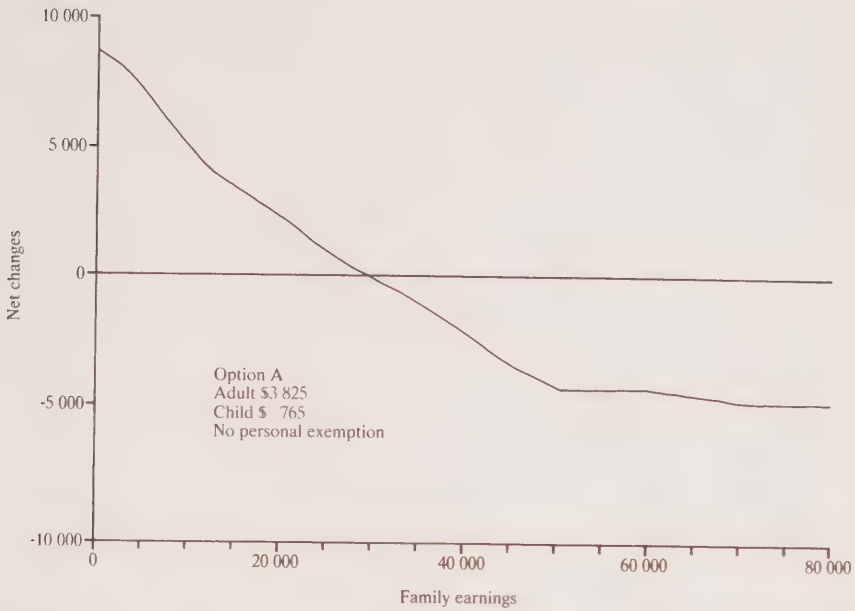


Source: Commission calculations based on Survey of Consumer Finances for Ontario families.

adult/two-child family with no other income, Option A would guarantee a basic annual income of \$9180 provided by the federal government and Option B a basic income of \$7000, under corresponding circumstances. Provinces might continue to provide social assistance top-ups in the amounts they now provide from their own funds, under CAP-supported social assistance. If they did so, provincial payments would add, on average, approximately \$3500 to \$4500 to the basic levels, making \$12 500 to \$13 500 available to Canada's poorest families under Option A or \$10 500 to \$11 500 under Option B.

Even with relatively low guarantee levels, there still may be concern about the work-incentive effects of these proposals, particularly with respect to young single recipients. If this is a public concern, it is possible to make receipt of benefits contingent on active participation in the labour force in the form of active job search, as defined by the Unemployment Insurance Commission (UIC), or by demonstrating some level of earned income or by participation in locally administered job-creation projects. In the mid-1970s, during consideration of such system designs, planners envisaged that provincial governments might share in these proposals and hence administer some form of "employment-availability" tests. A combination of UIC offices and National Revenue Taxation offices might also undertake appropriate screening. In pure efficiency terms, the cost of such screening is unlikely to be worth the money saved, but it might be difficult to mobilize public support for

FIGURE 19-7 Option A: Change in Personal Disposable Income in Two-Earner/Two-Children Family, 1984



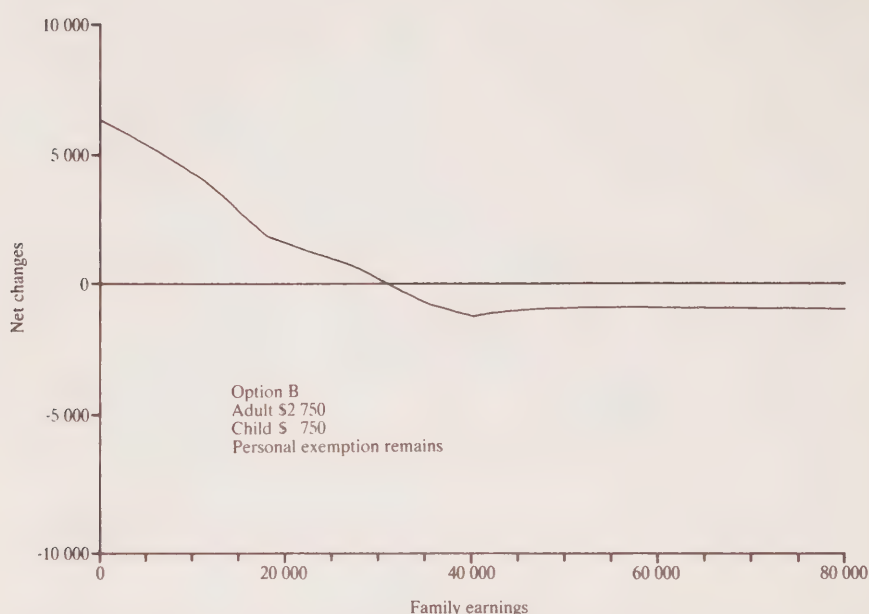
Source: Commission calculations based on Survey of Consumer Finances for Ontario families.

any program which does not include some form of work testing. Concern that younger people might tend to be program “abusers” might also be tempered by varying the guarantee levels for adults by age. Thus, for example, benefits for people 18 to 35 might be restricted to half of those for adults over 35 years of age.

Although the danger that there may be some work-disincentive effect for all classes of beneficiaries may be a public concern, evidence derived from U.S. experiments, which used program designs with larger work disincentives than those we have presented here, suggests that it is small. Nonetheless, Commissioners, too, are acutely conscious of this possibility, and it is partly for this reason that we suggest relatively low guarantee and tax-back levels. This concern also leads us to express a slight preference for some form of Option B, with somewhat smaller guarantees than Option A, even though vertical equity considerations might make A preferable.

There may also be a related concern that a general income supplement will constitute an impediment to labour-force mobility. Commissioners believe, however, that the combination of the changes to Unemployment Insurance and the Transitional Adjustment Assistance Program recommended earlier will have, on balance, highly beneficial effects on labour mobility, while also providing a fully adequate measure of income protection. The UISP will add substantially to this effect by guaranteeing to Canadians who do find new

FIGURE 19-8 Option B: Change in Personal Disposable Income in Two-Earner/Two-Children Family, 1984



Source: Commission calculations based on Survey of Consumer Finances for Ontario families.

work opportunities that their incomes will be supplemented in a manner which will enable them to fulfil their obligations to their families.

For reasons considered earlier, Commissioners recommend a universal demogrant-based delivery system, rather than a strictly tax-based system, although either one is workable. There is also a variety of far-from-trivial design considerations involved in implementing any such system. Care must be taken, in defining the eligible family unit, not to create incentives to family breakdown. A single benefit level for all children of all ages might prove insufficiently sensitive to family needs. The accounting period (that is, the period over which income and benefits should be reconciled) should not necessarily be annual. In our examples, we have used a 20 per cent basic reduction rate for benefits, in order to avoid unnecessarily pre-emptive levels of overall "taxation" as a client gains sufficient income to pay taxes. Integration of the arrangements with broader tax reform could produce more desirable benefit structures.

Federal-provincial considerations are particularly important in moving towards the UISP. Since the federal and provincial governments share the personal income-tax field, any reduction or elimination of exemptions provides increased revenues for both levels of government. Conversely, because family allowances are defined as taxable income, their elimination would reduce provincial revenues somewhat. As a rule of thumb, the effect on provincial governments of federal income-tax changes is equal to one-half the

effect on the federal government or one-third of the total. Moreover, because Quebec operates its own tax system, federal tax changes would not automatically affect the Quebec treasury.

The calculations used in the presentation of the UISP assume that *all* of the net yield from elimination of the various exemptions and family allowances is available for application to the program. Of course, this will not happen automatically as the federal government carries out its tax changes. In fact, without some alternative arrangement, only about two-thirds of the money can be captured by the federal government and converted to UISP benefits. Commissioners believe that virtually all of the available funds should be put into income-security programs; for their successful operation, a co-operative federal-provincial approach is, in our view, absolutely essential.

Two general options can be suggested. The provincial governments might actually withdraw from some percentage points of personal income tax, vacating that tax room so that the federal government might collect the income. Although this approach is unprecedented in the recent history of federal-provincial/tax-collection agreements, yet at various times, many provincial governments have suggested that direct income transfers of the UISP type are a highly appropriate initiative for the federal government to take. Thus, surprising levels of provincial support for such a proposal may exist.

The second general approach would see provincial governments retain the \$5 billion in additional tax yield and use it to enrich their own top-up arrangements according to the configuration they consider most desirable. Some provinces might simply wish to follow the federal configuration, while others might take somewhat different routes. It would be important, in this Commission's view, to ensure that all of the available revenues remain in the income-security system, and federal-provincial negotiations should deal with that aspect, as well as ensuring proper co-ordination of the federal and provincial plans. This might be done through incorporating both federal and provincial benefits in a single cheque. While the problems of complexity which bedevil our current systems would not be cured under this arrangement, Commissioners recognize that some degree of provincial differentiation might be a necessary, and perhaps not an excessively high, price to pay for general agreement.

It is this Commission's view that all the problems we have considered can be solved. Given the importance of the other adjustments Canadians must make in the coming decades, and given the massive size and acknowledged deficiencies of Canada's current transfer and tax programs, we consider it important for the Canadian government to consider a bold step such as we have outlined here.

Phasing In Reforms

It may prove impossible for a government to move in a single step to a rationalized system of the type suggested here. In that case, Commissioners wish to recommend that the following two-stage approach be considered. In the first stage, the Family Allowance, Child Tax Credit and Child Tax

Exemption programs would be eliminated, to be replaced with a single, large, Family Allowance-type payment or a larger child tax credit, payable monthly. For the year 1985, an amount of \$1000 annually would likely be in the appropriate range. The choice between demogrant- and tax-system delivery should be made very carefully, since it would probably form the prototype for the second stage of reform. The tax-back structure on the enlarged child benefit would have to be somewhat different from the system used for the current child tax credit. The application of its 5 per cent reduction rate, which would start at a family-income level of \$26 000, to a benefit of \$1000 per child, would result in the payment of at least some supplement to all two-child families with annual incomes of less than \$65 000. A 10 per cent tax-back rate would reduce the application of this supplement to families with incomes in the \$45 000 range, and a 25 per cent rate to families earning in the \$35 000 range. The social assistance benefits covered by the Canada Assistance Plan should also be changed in structure, to permit the application of a lower tax-back rate, in the 75 per cent range, to those recipients who have some earned income beyond the current, very low, exemption levels.

At the second stage of program reform, all relevant exemptions should be eliminated from the tax system; the federal government would discontinue payment of its portion of social assistance; and the GIS would be incorporated into the system. The federal government or the federal and provincial governments in co-operation would institute the Universal Income Security Program, and provincial governments would provide social assistance top-ups, where necessary, for Canadians with little or no employment income.

The phasing in of UI systems and the TAAP should proceed in concert with the other changes that Commissioners have proposed. If our government is not to create undue hardship, however, it must ensure that the major elements of UI reform, aside from experience rating, are not fully applied before TAAP provisions can be implemented and, preferably, before UISP is in place. Since we believe that these reforms are a very important part of the changes necessary to help Canadians adjust to emerging realities, we urge that there be little delay in promoting them. We therefore strongly recommend that the first-stage reforms be implemented immediately, that the UISP/TAAP proposals be phased in over two to three years, and that the entire package be in place by the end of 1987.

Commissioners wish to repeat that we recommend these changes as representing the basic directions to be followed. We leave vital details of program design to the federal and provincial governments, for those details depend on two factors: the levels of benefits in the existing income-transfer programs at the time reforms are put in place; and decisions about the features of program design which can only be made by governments in close touch with the people of Canada, at the time the reforms are implemented.

Note

1. Canada, Minister of National Health and Welfare, *Child and Elderly Benefits*, Consultation Paper (Ottawa: The Department, 1985).

Recommendations

This Commission believes that the provision of a Universal Income Security Program with relatively low guarantee levels and tax-back rates is an appropriate long-term goal for the Government of Canada and the provincial governments to pursue, in order to reform the current income-security system. Such a system should replace the majority of current transfer programs and personal and family tax credits and exemptions.

The provision of the federal supplement is an appropriate long-range objective. In the shorter term, Canada's federal and provincial governments should:

- Rationalize the family-benefits system by redirecting money from the child tax exemption either to the child tax credit or to the Family Allowance and by adjusting the tax-back rates on those programs so as to ensure a uniformly progressive benefit system
- Improve the social assistance aspects of the Canada Assistance Plan by permitting the application of lower reduction rates to beneficiaries with earned incomes above exemption levels.

These latter changes, in combination with the experience rating of Unemployment Insurance premiums, should constitute the first stage in phasing in the general income supplement recommended above and should be implemented immediately. Commissioners believe that in view of the benefits to be gained from rationalization of the income-security system, the Universal Income Security Program should follow quickly upon this first stage and should be in place by the end of 1987. At this time, the remaining UI reforms and the TAAP should also be in place.



Social Services

General Services 807

Day Care 812



Social Services

General Services

Canada's social services comprise a broad range of programs dealing with child welfare, children's institutional care and welfare services, day care, home care for the elderly, counselling, community programs for the disabled and aged, distress centres, and a host of other services. They are delivered, in part, by provincial and municipal governments, but to a very large extent, through a range of voluntary agencies using a combination of professional and voluntary workers, as well as through other private profit-oriented and non-profit organizations. It has not been the purpose of this Commission, in preparing our Report, to provide an extensive analysis of Canada's social services. However, their importance to the future of many Canadians is critical, and there are, therefore, some aspects on which we do wish to comment.

Two potentially antithetical themes were expressed by groups and individuals who appeared before this Commission to present their views on social services. One was a call for more encouragement of the activities of the voluntary sector which participates in service delivery. The other was a fear that government was reducing its commitment to social services, partly through devolving responsibility to the private and voluntary sectors, and that significant damage to our social services could result.

Of course, these themes need not necessarily conflict: governments might go on providing financial support for social service agencies and, at the same time, continue to exercise regulatory or supervisory authority over them, while devolving the actual delivery of services to less bureaucratic and therefore potentially more responsive, structures. Commissioners believe that such a policy constitutes an appropriate resolution and direction for the future.

Other important themes relating to social services were also brought forward. If many Canadians considered that services should be more

frequently delivered by the voluntary sector, they often coupled that statement with a call for service delivery to be de-institutionalized; they prefer that service delivery be based in the local community and, where possible, on existing family structures. Some intervenors promoted this view as a means of saving money in providing service-program delivery. Others saw the suggestion as a way to improve the services themselves. The latter reason was proffered in presentations by several groups of users of the services.

The best judges of how a service ought to be delivered must be the users themselves. Not least for this reason, Commissioners find highly persuasive the suggestion that devolution of services can create improvements, provided that the transfer of responsibility involved is accompanied by adequate funding. The contention that this move could also make it cheaper to provide community- and family-based services gives us considerably more difficulty, however. Little solid empirical evidence exists to uphold this view as it relates to child care, adult psychiatric care and care for the disabled. While institutional costs will, of course, decline if people are removed from the institutions, direct and indirect costs to the community might increase. Most important, if patients are released before adequate community services are available to replace those currently in use, institutional expenditures will certainly decline, but at tragic cost to those who need the services and with considerable disruption to family and community life.

Information is more readily available on the costs of providing community-based care for the chronically ill and the elderly. The data seem to indicate that Canadians cannot expect to achieve really major cost reductions from turning to this type of care; under such an arrangement, indeed, costs often seem to be marginally higher. On the other hand, it must be emphasized that the clients themselves seem very pleased with the community-based service, and assuming that costs remain nearly equal or are not vastly increased, that itself would seem to be ample reason to encourage this arrangement.

A closely related theme was the call to provide services which would help users to become more self-reliant and to move completely from the need for service support. While this goal is ostensibly the objective of most forms of social services, it is one which, in practice, is not always given precedence. Although it seems obvious that governments and agencies which provide services should keep that objective constantly in mind, the frequency with which intervenors mentioned it as a reform needed in our service-delivery system leads Commissioners to emphasize it here.

This view was put to us very strongly in our Vancouver hearings:

As for social services, I believe in self-help groups. I work in the anti-poverty field; I work with a lot of self-help groups. There is a lot we can do for ourselves if we're allowed to do it . . . If you are going to have a group of poor people performing their own self-help, then you have got to give them the money . . . to do it. There are many things that we can do for ourselves much better than professionals can do for us. One of the things I really hate about the social services system is that they design their programs without any input from the people that they are supposed to be helping. They seem to have the feeling that they know what is best. It is a very paternalistic system, and I object to that.

(Gus Long, Transcript, Vancouver, June 11, 1984 [vol. 7], pp. 1705-6.)

Intervenors often stated, too, that continuing and increasing attempts should be made to achieve better integration of various types of social and medical services. While the Province of Quebec has tried to integrate medical and social services on a broad scale, elsewhere in Canada, examples of the "one-stop/shopping" approach to service delivery are more rare. Since many of the Canadians who need the assistance provided by social or medical services require more than one type of intervention, it is important that there be better communication among different types of service and, perhaps, that the services be brought closer together.

Another theme which emerged, though less frequently, was the potential value of privatization of service delivery on a supervised, but profit-making, basis. Some advocates of this approach assured Commissioners that market mechanisms could work the same magic in this area as in others. We must, however, express some reservations about an overly enthusiastic application of this approach. The delivery of services for profit is currently applied most widely in day care and, particularly, in nursing-home care. While there is no conclusive evidence of the effect of privatization on users of these services, staff/patient and staff/child ratios are lower in private facilities than in public ones. Moreover, some researchers have expressed reservations about services supplied on a profit-making basis. Particularly with respect to nursing-home facilities, private markets work best when consumers are both well informed about alternative sources of service and mobile. Since neither condition usually obtains for nursing-home residents, governments must, at the very least, continue to play a major supervisory role.

Another theme was the call for broader access to social services. The Canada Assistance Plan (CAP) allows the federal government to share in the provision of services to Canadians "in need or likely to become in need". This expression is interpreted to mean financial need, and in the past, it has had the effect of restricting the free availability of many government-supported social services to the poor, even though the requirement for these services is certainly not wholly related to income. In recent years the federal government has developed new cost-sharing guidelines for CAP-assisted social services. These will allow provinces to support the entire costs of social services used by recipients with incomes up to the Old Age Security (OAS) level plus twice the Guaranteed Income Supplement (GIS) level for adults and one-third of that amount for children. This means that in March 1985, full subsidy for a two-adult/two-child family may be made available, up to \$26 818 of annual, after-tax, family income. After that point is reached, recipients must pay 50 cents of each additional dollar of earned income to cover the costs of services. These guidelines appear to be fairly generous, but it remains true that in Canada, higher-cost medical services are "free" to all users, while the use of social services, which are often more cost-effective, involves a charge for middle-income clients. This anomaly often induces clients to substitute the higher-cost service for the lower-cost one. In addition, many provinces do not take full advantage of the guidelines, preferring, instead, to pass on a larger portion of the costs to clients.

Of course, calls for wider access to social services do contradict calls to limit the size of government expenditures. In the end, whether or not one

supports universal free access probably depends on how important one believes those services are, compared to the strength of one's views about limiting the size of government. It is difficult to estimate the cost to the public sector of any move towards broader access to services. In 1977, an attempt to renegotiate the social services component of the Canada Assistance Plan in order to provide more open access to its services put the program's cost at about \$225 million for the federal share. A realistic 1984–85 figure probably runs close to \$500 million.

Various individuals and groups have proposed, for a wide variety of reasons, that more use be made of volunteers and voluntary agencies. Such a change would:

- Provide more community involvement in service delivery
- Provide a more “human face” in service delivery
- Allow users and clients to have a more direct “say” in the provision of services
- Allow taxpayers to have a better view of what their dollars are providing
- Reduce citizen dependency on government
- Reduce the cost of service delivery
- Reduce general government involvement in the community.

This Commission also heard some arguments against greatly increased reliance on the voluntary sector. Governments, it was feared, might be seen as shirking their present mandate to help Canadians directly. Their ability to impose province-wide and national standards might be reduced. On the one hand, funding of services would be more haphazard and stand at greater risk, especially if it were dependent on volunteer donations alone. On the other hand, if government did continue to finance social services, fear might mount that the voluntary sector could forfeit its independence of government. Job security and existing wage levels for employees of service agencies could be reduced, and public access to services could be further restricted. Moreover, the ability of non-professionals to make optimal choices, maintain standards, and fulfil public-sector/accountability requirements might be questionable. Some consumers fear a return to “charity”: that is, a system in which services are defined by the rich and given selectively to those in need. Finally, the voluntary sector itself has expressed mixed reactions to any such proposed set of changes. For instance, the President of the United Way of Canada told this Commission:

I find it very hard to say, in black and white terms, “It is either government services or services initiated or managed by volunteer organizations.” I could say, “Yes, volunteer organizations have developed a capacity to be close to the people they serve and ability in administration, but I would say that that is [the result of] a developmental process and experience that is gained in business. Here again, I should probably be obliged to qualify my statement, depending on the volunteer organizations involved, just as one would make qualifications depending on the ability of this or that ministry to manage these programs. I find it hard to come down definitely on one side or the other by saying, “This

isn't the business of the government any more; this the business of volunteer organizations."

(André Mailhot, Transcript, Montreal, May 30, 1984 [vol. 1], pp. 99–100.)

Again, the United Way of Greater Toronto declared:

The choice related to the voluntary sector . . . is presented incorrectly as an either/or proposition . . . Given the emergence of the self-help movement, along with the climate of fiscal restraint, prevalent cynicism about government and large institutions, we can expect a continued shift towards voluntary delivery of services. This raises, though, some issues that . . . are important to address . . . First, the risk that reliance on the voluntary sector to deliver services will be used as an excuse to withdraw support for services genuinely the responsibility of government. Second, the risk that the benefits of volunteerism argument will be exploited and lead to the use of volunteers to displace paid workers, recently exemplified out of the Canadian Labour Congress convention and experienced in British Columbia. Third, the tendency apparent in some government departments to seize on the concept of voluntary action and introduce programs which rely on volunteers at the delivery level, but which have high overhead costs and are therefore not financially efficient . . . The key to working our respective roles in the delivery of social services is meaningful consultation in advance of policy decisions.

(Gordon Cressy, Transcript, Toronto, June 26, 1984 [vol. 13], pp. 3246–48.)

While these remarks counsel caution, they do not seem to constitute deep reservations about further use of the voluntary sector in service delivery. Commissioners believe that the balance of evidence indicates that governments should support and nurture such activity. The reservations expressed by these United Way representatives do, however, make a compelling case that governments must not adopt a totally "hands-off" approach to service delivery, but continue to provide extensive funding for, and careful supervision of, this process. We can find no justification for suggesting that the services themselves should be considered a primary hunting ground for reductions in government expenditure. We therefore propose that devolution to the voluntary sector of responsibility for social service delivery be accompanied by the maintenance of public funding levels. This recommendation is based on Commissioners' belief that by using the voluntary sector more, our governments ensure that public funds go further and are more effectively spent.

Commissioners believe, too, that in spite of the improved federal guidelines described earlier, the tying together of federal support for social assistance and social services in a simple "needs-based" funding mechanism, the Canada Assistance Plan, no longer permits the federal or the provincial governments the flexibility required to deal with either of these areas of responsibility. A strong incentive exists, therefore, for renewed federal-provincial discussion about the future of social service delivery and the appropriate funding mechanism to cover it.

Commissioners would be more than remiss if we left this section without making a more general comment about the voluntary sector. We have dealt here with its specific role in the delivery of social services, but we wish to emphasize its much broader role in Canadian society. In Canada, volunteers form the backbone of our activities in a variety of fields from young peoples' sports leagues to political parties. Indeed, except for the United States, in no other society in the world is the level of voluntary activity as high as in Canada. This valuable asset of Canadian society is one that governments should take care to nurture and support.

Commissioners also wish to emphasize that the voluntary sector made many representations to us on a range of subjects far broader than their own specific interests. We found these views particularly valuable, since they were so obviously free from self-interest, and we have leaned heavily on them in preparing all stages of our Report. In view of the voluntary sector's broad range of interests and the strength of its views, it would be no exaggeration to say that their perceptions suffuse our work.

Day Care

One of the most essential of Canadian social services is the provision of day-care facilities for children. Given the massive scale on which women have entered the labour force over the last two decades, more and more families now use day-care facilities for their young children, for all or part of each working day.

Many groups and individuals appearing before this Commission recognized the importance of day-care facilities. The provision of these facilities has also been of increasing concern to governments as they have felt the pressures generated by labour-market changes and evolving expectations about the role of women in Canadian society. Two major task forces on day care, one federal and one parliamentary, are currently at work in response to this concern. Since they can investigate the issues involved in much greater depth than we Commissioners have been able to do, it is not our intention to comment extensively here. We do, however, wish to make a number of points.

Canada's present day-care system is a complex mix of publicly provided, publicly funded and private sector arrangements. In some parts of Canada, municipal authorities provide day-care services, while in many areas, municipal or provincial governments fund community groups set up for this purpose. In several provinces, private-sector corporations provide day care. However, the great majority of children in day care are served by unregulated forms of care supplied by relatives and "sitters". Governments are willing to cover the cost of some publicly provided day care for lower-income and some middle-income families. The funding for this service is covered by the Canada Assistance Plan and is subject to the same income-testing guidelines as other social services. The federal and provincial governments also provide an annual tax exemption for day care, amounting to \$2000 per child, but like all tax exemptions, this one provides the greatest benefit to Canada's highest-income families. Families in the middle-income range therefore receive relatively

little support, with the result that organized day-care facilities which cost several thousand dollars per year often serve a mixture of lower-income and quite well-off families, but very few in the middle-income range. Of course, the greatest access problems are caused simply by the lack of places in supervised day-care centres.

Overall, this situation has the effect of driving the majority of Canadian parents into the unsupervised private sector to find baby-sitting or day-care services at reasonable cost. While the majority of such arrangements may be satisfactory, and while many parents will continue to prefer to use them, the cost to some parents and children, both in financial and in other terms, can be quite high.

Day care is a provincial responsibility, and therefore any solution to related problems must be provincial or federal-provincial in nature. Commissioners are concerned that without some federal involvement, poorer provinces will be unable to afford satisfactory arrangements, and some richer provinces may not be motivated to try to find solutions. We are, however, highly aware that day care could constitute a very costly social service area in which government is not now heavily involved. The cost of an even greater degree of government involvement would be higher still, and we Canadians must consider carefully whether or not we wish our governments to spend more public funds on providing day-care services.

Commissioners wish to make no specific suggestions, beyond recommending that the federal government convert the current child-care tax deduction to a tax credit (from which the value of any subsidized day care received should be deducted, in order to avoid double subsidies at the bottom end), and that the federal and provincial governments consider day care an area of high priority for future discussion. We propose the conversion to tax credits in order to alleviate the perverse distributional effects of the present tax exemption. If any tax provisions are to be retained after federal-provincial review, the tax-credit mechanism is to be preferred. We refrain from making more specific recommendations about the nature and desirability of any federal-provincial cost-sharing mechanism to support day-care services, pending public consideration of the two task-force reports mentioned above.

Conclusions and Recommendations

This Commission wishes to make a number of general observations concerning some of the issues we have reviewed in this part of our Report. Several of the major recommendations proffered in this section are best considered as a package. Thus the reforms Commissioners propose for Unemployment Insurance (UI), the new Universal Income Security Program (UISP) and the new Transitional Adjustment Assistance Program (TAAP) would have maximum efficacy if they were implemented together. The savings generated by the UI changes would finance the TAAP, and the UISP would provide financial assistance if some incomes were lowered by the adjustments. The TAAP would support the effect of changes in the UI system that would promote economic adjustment, while the UISP and some elements of TAAP would cushion any resulting difficulties experienced by individual Canadians.

Since the overall level of social policy expenditures in Canada is low by OECD standards, there is no strong general case for attacking the deficit by reducing social expenditures. However, reallocation and restructuring could greatly improve the system and would be valuable in providing help to those who most need it, while containing overall costs.

Looking forward, Commissioners can see no trends that will inevitably undermine the fundamental viability of social programs. Such factors as the aging of the Canadian population or the demands imposed by technological and economic change require careful planning, but none is likely to prove so large as to make our programs unsustainable, particularly if the reforms suggested in this part of our report are carried out.

We Commissioners are of the opinion that tax and transfer systems cannot be given valid consideration in isolation from each other. Thus, major reform of our income-security programs also requires reform of some aspects of personal taxation.

Labour Markets and Unemployment Insurance

After considering Canadian labour markets, Commissioners are of the view that Canada's most important goals are to create more jobs and to improve the situation of individual Canadians by eliminating any inappropriate incentives in current programs. We undertook our analysis on the assumption that current trends in participation rates will continue, bringing a steadily increasing proportion of women into the labour force. While these trends are basically manageable, particularly given our assumption, detailed in Part III, that labour supply itself creates demand for labour, they do portend continuing high levels of unemployment—and continuing preoccupation of policy makers with that problem—for the next five to eight years, and they do add significantly to the training requirements Canadians must face.

We note in our analysis of labour markets that the highest proportion of current unemployment is either created by deficiency of aggregate demand or by structural factors such as mismatches between available job requirements

and skills. A significant amount of unemployment is also created by "frictional" effects, that is the inevitable lags and delays as workers move from one job to another. We have dealt in Part III with aggregate demand deficiency. Here we recommend several measures to facilitate adjustment and training, thus reducing structural unemployment. We also recommend changes in unemployment-insurance and income-security programs which will lower frictional unemployment. Without undertaking changes such as those we are recommending, it will be almost impossible, even in the long run, to reduce unemployment below 6.5 to 8 per cent of the work-force, the current non-accelerating inflation rate of unemployment (NAIRU). Since we consider even those levels to be unacceptably high, we lay great emphasis on these types of reform.

Some increase in unemployment is also engendered by our existing UI programs. First, by making unemployment relatively "cheaper" for individuals, it has, in some cases, a negative effect on job search. Secondly, by providing, through its benefit structure, that individuals in some areas may qualify for 40 weeks of benefits by 12 weeks of work, it encourages regular cyclical unemployment; a feature taken advantage of by both employers and employees. Again, by providing extended benefits in some areas but not others, it discourages labour-force adjustment, while providing no extended benefits to large numbers of unemployed Canadians. Moreover, because its premium structure is unrelated to the risk of unemployment, it penalizes steady employers and employees and shifts benefits towards firms and employees with unstable employment patterns.

■ With respect to Unemployment Insurance, Commissioners recommend that the federal government consider a package of changes such as the following:

- Experience rating which establishes premium rates that are proportional to the risk of unemployment. These rates should generally be calculated on a firm-by-firm basis.
- A reduction of the benefit rate to 50 per cent of insurable earnings
- An increase of the entrance requirement to 15–20 weeks of insured work over the preceding year
- Tightening of the link between the maximum benefit period and the minimum employment period; for example, establishing a ratio of two or three weeks of work as qualification for one week of benefits
- Elimination of the extended benefit period based on regional unemployment rates.

These changes would reduce UI benefit costs by at least one-sixth in respect of the reduction in benefit rates and approximately one-sixth in respect of the elimination of regional extended benefits. The cost reductions that could be achieved by the other changes are too sensitive to behavioural change even to be estimated by methods available to this Commission. However, total savings of at least \$4 billion at April 1985 rates of unemployment are probable.

- Commissioners therefore recommend that:
 - The savings in respect of the first three UI reforms be passed along as reductions in overall premium levels. (The regional extended benefits are financed from consolidated revenues.)
 - Personal and corporate taxes be raised by an amount equivalent to premium reductions to create a Transitional Adjustment Assistance Fund. The government savings from termination of extended benefits should be added to the fund.
- This Commission recommends that the Transitional Adjustment Assistance Fund be used to finance a Transitional Adjustment Assistance Program. This program would provide adjustment assistance for Canadians who have exhausted their UI benefits, or whose lay-offs appear permanent, provided that they were willing to move or to undertake retraining to improve their employment prospects. The program would provide greatly expanded support for:
 - Portable wage-subsidy programs
 - Mobility grants
 - Training programs
 - Early retirement.

In addition, the TAAP could be used to provide compensation for losses in assets, such as housing, which occur as a result of the decline of communities. It should also be possible for TAAP funds to be used on a pooled basis to assist workers to purchase equity in plants which would otherwise shut down or in other forms of local economic development projects. In general, the extent of entitlement of workers to TAAP funds should be proportional to their length of attachment to the labour force, since older workers will typically experience greater transitional difficulties than younger workers.

- Commissioners recommend that existing policies promoting equal pay for work of equal value should be maintained. However, these may involve some negative consequences. If they are used apart from affirmative action programs, for instance, they may actually result in reductions of employment opportunities for disadvantaged groups. Moreover, they can serve to move Canadians too far away from a market-determined to an administered wage system. Commissioners therefore recommend that legislation emphasize creation of equal employment opportunities through affirmative action, rather than the principle of equal value. Commissioners generally approve the approach put forward by Judge Rosalie Abella. This would involve:
 - Legislated requirements for affirmative action by all employers covered by the Canada Labour Code
 - Encouragement of all provincial jurisdictions to follow suit
 - Contract compliance action by the federal government and Crown corporations.

We are not convinced, however, that sufficient attention has been paid to the costs of equal employment-opportunities programs or, particularly, to the issues of equity among the various disadvantaged groups in Canadian society.

- We therefore recommend that the program be phased in following:
 - A three year experimental program of affirmative action in Crown corporations
 - Extensive consultations with the private sector to ensure effective but least expensive implementation to begin in three years' time.

This Commission believes that the programs are more likely to be effective if they are supported by legislation and backed by an adequate enforcement agency.

- We therefore recommend:
 - Legislated equal employment-opportunities provisions, rather than guidelines
 - Establishment of fully adequate levels of funding for the federal Human Rights Commission and equivalent provincial institutions.

■ Work schedules are necessarily established on the basis of understandings between employer and employees that will express a balance between the requirements of the work process and the desires of the employee. This Commission has found, however, that some factors exist which may interfere artificially with the achievement of this understanding. Any such factors should be eliminated in order to achieve fuller flexibility of labour-market arrangements, thus enhancing both employee satisfaction and productivity.

- Commissioners therefore recommend such changes as:
 - Basing Unemployment Insurance, Worker's Compensation and CPP premiums on hourly earnings, with a ceiling on contributions that applies to hourly rates rather than to weekly or annual compensation
 - Eliminating the bias against some categories of reduced hours in creating eligibility for paid holidays or termination notice
 - Encouragement of pro-rating of fringe benefits. □

Immigration

In the past decade, Canadian immigration policy has become more restrictive than our historical norm, both with respect to numbers of immigrants and with respect to the criteria for admission. We Commissioners do not believe that this narrowing is necessary or appropriate, given the long-term projections for Canada's population growth. We are concerned, however, about the overall implications of a more open immigration policy.

■ We therefore recommend:

- A major examination of Canadian demographic trends and their implications for our government's future immigration policies
- That the same study examine, by means of open debate and other methods, the cultural, linguistic and racial implications of other forms of immigration policy
- Establishment of a long-term plan for immigration that, depending on the results of the study described above, will move to higher numbers of immigrants over a number of years. This new plan should place less emphasis on narrow occupational requirements and more emphasis on broadly skilled and generally capable immigrants. □

Labour/Management Relations

■ This Commission notes the very great importance of the labour movement in Canada and throughout the developed world in improving the pay and working conditions of workers. To this end, we wish to recommend generally that all Canadian governments provide a supportive legislative environment for the labour movement and for collective bargaining.

The adversarial system of union-management relations needs to be re-examined. Management must respond to employee concerns about job security and job satisfaction, and to the often-untapped capability of all employees to contribute to improved productivity and product quality. Unions must find new ways to facilitate and to participate in this process; they should have and take the opportunity to do so, not by relinquishing their representation of employee interests, but by adding to it a responsibility for helping to achieve the levels of competitiveness essential to the survival of the enterprise.

Since reductions in strikes and lock-outs could be achieved by the following measures, Commissioners recommend that:

- Labour-relations boards be permitted to create multi-employer and multi-union bargaining units when this is likely to facilitate the bargaining process. Such units should not be imposed but, rather, could be permitted on the application of one or both sides.
- More information be shared by the parties to industrial disputes.

Commissioners are not persuaded that shorter contracts or forced centralization of bargaining structures are likely to improve labour-management relations significantly. Changes in these areas should therefore proceed on a voluntary basis. The right to strike or lock out must be rationally limited by the need to maintain the health and safety of the public.

Employer-employee relations in Canada seem likely to be most responsive to improvement at the level of individual firms, plants and union locals.

Overall solutions proposed at the provincial or national level seem unlikely to be as effective as local solutions.

- Commissioners therefore recommend that governments support, on a local and voluntary basis, such features as:
 - Preventive mediation programs
 - Quality-of-working-life programs
 - Gains-sharing/compensation arrangements.

■ Occupational Health and Safety is an area of important and growing concern. Since great improvements can still be made, this Commission recommends:

- Greater emphasis on these issues at higher levels of corporate management. Management failure in this area is bound to result in higher levels of government intervention.
- More complete experience rating of Workers' Compensation premiums in order to provide direct financial incentives for firms to minimize health and safety problems, in order to ensure that the full social costs of hazardous work environments are reflected in prices
- Continued and increased reliance on the internal responsibility system rather than increased government intervention. This requires:
 - Mandatory, joint health-and-safety/labour-management committees in all eleven jurisdictions, such as currently exist in nine
 - Vesting real responsibility in those committees rather than leaving them with only an advisory role.
- Continual revision of standards by governments as new information about hazards becomes available. This is most important in dealing with occupational health problems. At a national level, these standards could most appropriately be developed by the Canada Centre for Occupational Health and Safety. The appropriate jurisdictions would then apply the standards.

Commissioners are particularly concerned with occupational health issues. Because occupational diseases typically have long incubation periods, it is often difficult to evaluate the effects of industrial processes on workers. That same factor makes it difficult to establish a direct link between occupational factors and specific diseases, and therefore current worker's compensation programs are not well adapted to handling occupational disease.

- In addition to our recommendation of continual development of standards and monitoring of processes, Commissioners also urge that:
 - The federal and provincial governments consider the immediate implementation of a comprehensive social insurance disability plan to deal with the longer-term effects of occupational health problems, as well as with other forms

of disability in the working-age population. This plan could be implemented either by expanding worker's compensation into a comprehensive disability scheme or by extending the present disability provisions of the Canada and Quebec Pension Plans. A federal-provincial working party is currently considering this measure, but progress in developing this idea has been slow. □

Education and Training

In Canada education and training programs discharge multiple functions. They constitute an important way in which young Canadians learn to live together in our community, and they are the most important means by which labour-force skills and knowledge are adjusted to labour-market demands. They also provide a major means of upward mobility. Our post-secondary educational institutions are also the major source of basic research and of much applied research, and they are important repositories of our culture.

Commissioners anticipate no diminution in the general importance of post-secondary education and training. Indeed, PSE is likely to increase in importance as the demand grows for high levels of knowledge and research. Training programs, particularly those relating to industrial training, are likely to become more important as Canadians adjust to the shifting realities of the labour market. The Transitional Adjustment Assistance Program, by providing greatly increased support for training, may be a particularly important factor in this adjustment.

Commissioners are concerned about several features of our educational and training system. In particular we are convinced that:

- Higher levels of excellence are desirable and achievable.
- More flexibility is desirable.
- Use of the PSE system by low-income Canadians is insufficient.
- The current federal-provincial transfer arrangements are inappropriate.
- The current balance between industrial and institutional training is still tilted too far towards the latter.
- There is inadequate provision for retraining and re-education in adult years.

With respect to post-secondary education, Commissioners believe that it is desirable to consider substantial changes in financing mechanisms in order to create a more competitive, dynamic and diversified system. The current EPF transfer arrangements are quite inappropriate for achieving those objectives. They should be changed to encourage reform of the system, but in a way that will minimize direct federal intervention in this area of provincial jurisdiction, while still allowing for the achievement of national objectives.

There has been very considerable informal discussion of the intergovernmental transfer arrangements for post-secondary education over the last five years, but there have been no formal federal-provincial negotiations. Commissioners believe that it is important for federal and provincial governments to enter immediately into serious discussion of other methods of funding than the current mechanism both because the present arrangements

are less than satisfactory, and because the uncertainty about possible future arrangements may be impeding necessary reforms to the sector. Several broad options are available. Our federal government could:

- Withdraw completely from this sector and cede enough tax points to the provinces to cover its current contributions
- Return to the pre-EPF funding formula
- Provide an amount equal to provincial "own source" funding, exclusive of the tax points transferred under EPF
- Freeze its basic contributions at current or slightly lower-than-current levels while matching on a 50/50 basis incremental provincial spending on education. Alternatively, incremental funding could be earmarked to support high-level university-based research.
- Undertake a form of direct-to-student financing, allowing for variable PSE fee schedules.

This Commission does not recommend federal withdrawal from PSE involvement. Many of the benefits of post-secondary education are national in scope, and provincial governments might tend to undersupply this sector unless there were some federal presence, particularly if they believe that graduates are likely to leave the province. Many representations and briefs emphasized the importance of involvement of the Government of Canada in this field.

Among the cost-sharing options are:

- A return to pre-EPF arrangements. This would be a step back to a basically unsatisfactory system.
- Provision by the federal government of amounts equal to provincial "own source" funding. This move would constitute a massive cut-back by the federal government, part of which would probably be passed on by provincial governments to already hard-pressed institutions.
- Freezing of basic federal contributions with cost-matching of increments. This stance would exert relatively little "leverage" on provincial government expenditures in this sector and would mean starting from a basically unsatisfactory base point. However it is probably the most desirable of the cost-sharing options, particularly if some of the incremental funds are used to support research.

With the possible exception of the final choice, none of the cost-sharing options seems likely to be satisfactory. None is likely to improve the incentives for institutions to achieve the flexibility and excellence which Commissioners think desirable. We believe that the complex institutional arrangements for PSE have created very considerable inertia in the system, to the detriment of the student and society as a whole. We therefore believe that the direct-to-student/funding option, although it is the most radical and thus difficult for PSE institutions and governments to accept, may be a preferable approach. In order to institute that approach, the following changes would be required:

- The federal government should terminate the PSE cash portion of its EPF grants to the provinces, ceding the EPF tax points plus further equalized tax

points in an amount equivalent to the Quebec abatement. All of the cash portion of EPF, including transitional adjustment payments, should be replaced with an education-expense tax credit or grant, to be increased annually at a rate equal to nominal GNP increase.

- Provincial governments should be encouraged to deregulate the fee structure of post-secondary institutions.
- Provincial transfers to institutions might appropriately be based on an equal per-student figure, without differentiation for particular programs, and be related directly to enrolment.
- Students should be responsible for a portion of education costs. Beyond that point, the federal credit should vary with the amount of expenses and tuition fees, up to a limit. The amount of the grant should vary only with fees and expenses directly related to education, and no attempt should be made to direct students into "demand" programs by means of a variable grant structure.
- A portion of the current EPF transfer (and some additional funding) should be reallocated to granting councils, which should begin to cover overhead costs of funded research.

A variant of this approach would provide much higher grants to graduate students than to undergraduates. This approach would greatly increase the "value" of graduate education for institutions and thus encourage specialization and excellence.

■ Commissioners strongly recommend that federal-provincial discussions aimed at rectifying an unsatisfactory situation should begin immediately, that they should consider a range of options such as we have suggested here, and that they should proceed with all urgency toward a conclusion. We believe that close further attention is merited for the options which:

- Replace intergovernmental transfers with direct-to-student transfers. Careful consideration should be given to the variant which makes much larger transfers to graduate students.
- Freeze current federal cash contributions. The federal government would match provincial expenditure increases on a 50/50 basis.
- Freeze current federal cash contributions while redirecting considerable amounts (perhaps one-half) of what would have been the incremental amounts into funding of university-based research. The rest of the funds should be used to match, on a 25/75 federal-provincial basis, larger provincial government contributions to universities.

■ With respect particularly to primary and secondary education, this Commission recommends the formation of an independent national commission to monitor quality and standards in primary and secondary education and to conduct and record research in related areas. We urge that the private sector take the lead in establishing and financing this commission. With respect to

occupational training programs, Commissioners believe that the direction of reform presently being followed by the federal government is generally appropriate. Increased attention to on-the-job and job-related training is to be encouraged.

■ This Commission also recommends that the federal government:

- Provide a special wage subsidy for labour-force entrants who have not had other forms of vocational training or post-secondary education. The subsidy would normally be provided to persons 15 to 18 years of age and to women entering the labour force after discharging family responsibilities. The subsidy could be financed by eliminating other job-creation programs for young people.
- Provide, under the Income Tax Act, for a Registered Educational Leave Savings Plan which workers could use to help finance the cost of training. Careful consideration must be given to the type of program eligible for RELSP financing and to the possibility of requiring completion of any training or education undertaken in order to qualify for the advantage.

Commissioners wish to point out that the TAAP described earlier might significantly increase training requirements in Canada.

Access to higher education by low-income students should be an important avenue of upward mobility in Canada. However, for a variety of reasons, low-income students make far less use of higher education than do middle-income students, thus impeding both their own upward mobility and Canada's labour-force efficiency. Several of the barriers faced by low-income students are not susceptible to immediate government reduction. Family-socialization patterns and peer pressures can be influenced only very indirectly. But governments can and should ensure that undue financial barriers are not blocking the educational prospects of low-income students.

■ This Commission therefore recommends strongly that further attention be paid to improving access for low-income students. At the least, therefore, we recommend continued support for the Canada Student Loans Program and its provincial equivalents, and we recommend that loan limits be changed in consonance with other policy changes proposed in this Report, to remove any financial barriers that might exclude otherwise-qualified low-income students. We also wish to emphasize the importance of continuing to grant scholarships for students who excel, no matter what their income level, and of offering bursaries for low- or moderate-income students with above-average grades who might otherwise be reluctant or unable to continue their education.

Commissioners are concerned, however, that the CSLP is increasingly unable to deal with the issue of student independence of parental support. Therefore we do not reject the concept of contingent-repayment loan schemes, and we recommend that governments continue to consider that possibility. □

Income-Security Programs

While this Commission does not view Canada's problems over the next quarter-century as unmanageable, Commissioners do believe that many – perhaps most – Canadians will have to face the need to make adjustments that will maximize their own opportunities in the face of the effects of economic change. For most Canadians, these adjustments will not be severe, but for some they will be very difficult. This is particularly true for low-income Canadians, families with children that lack income adequate to meet family needs, and workers in peripheral regions or peripheral jobs. Economic change has always caused these Canadians more difficulty than middle-income Canadians and it will continue to do so. Moreover, even without the impact of change, there are over one million Canadian families whose incomes are inadequate to cover any but the barest necessities, and many of these can be considered the “working poor”: families where one or more breadwinners are employed all or most of the year, but where incomes are still inadequate to meet their needs.

Middle- and upper-income Canadians get a great deal of public and private support as they adjust to economic change. They receive tax-supported education and training, and their employers often foot a substantial portion of their adjustment costs. Low-income Canadians receive relatively little such support. In general, it often seems true that the poorer one is, the more one is left to one's own devices to cope with the forces of change or destiny.

For these reasons, among others, Commissioners believe that all Canadians have a duty and a right to share the costs of adjustment and to provide help to those who need it. That has always been the basic rationale for many of Canada's income-security programs and it should remain so.

We Commissioners are also persuaded that there is enough money in our current personal tax-expenditure and transfer-payment programs to provide a comprehensive program of support for all deserving Canadians, but that current programs are often fundamentally flawed so that the current safety net is inappropriate. We believe that Canada can do much better than it has done in providing income support for our working poor and for those undertaking adjustments in their own lives in order to build a better future for themselves and their children.

■ The Transitional Adjustment Assistance Program would go some way towards providing assistance, but other reforms, too, are required. Thus Commissioners believe that the provision of a Universal Income Security Program with a universally available income guarantee, subject to reduction at a relatively low “tax-back” rate, constitutes the most appropriate foundation for Canada's income security programs.

- We therefore recommend that the UISP replace existing federal tax and transfer programs including:
 - GIS
 - Family Allowances
 - Child Tax Credits
 - Married Exemptions

- Child Exemptions
- The Federal Share of CAP Social Assistance Programs
- Federal Social Housing Programs.
- The replacement of these programs would make possible a universally available guarantee, in 1985, of approximately \$2750 per adult (and for the first child in a single-parent family) and \$750 per child with benefits reduced at a 20-per cent rate as other income was available. The elderly should receive an enriched option. A substantially larger guarantee of \$3825 per adult could be provided if the personal income-tax exemption were also included.
- The UISP should be put in place at the same time as the broad Unemployment Insurance reforms described above. The entire package should be in place in 1988. The package should be phased in, however, with a two-stage approach. In the first stage, which should begin immediately, the Family Allowance, Child Tax Credit, and Child Tax Exemptions should be eliminated and replaced with a single demogrant or tax credit of approximately \$1000 per year in 1985, payable monthly. The total amount should be available to families with a total annual income of up to \$26 000. Beyond that level, benefits might be reduced at a 25 per cent rate. Experience rating for UI should also begin immediately, and social assistance payments under the CAP should be restructured to replace the present pre-emptive reduction of benefits above the current work-related/expenses level with a 50 per cent reduction rate. At the second stage of implementation, to be completed by the beginning of 1988, the full range of UI, UISP and TAAP changes outlined above should be in place.

Commissioners wish to emphasize that recommended benefit levels and structures are indicative only. While we believe them to be correct and appropriate levels in mid-1985, they will change with time. Moreover, the interrelationship among such features as basic guarantees and tax-back levels can be varied to achieve a number of effects.

We also wish to emphasize that while the federal government could implement most parts of this proposal unilaterally, these reforms are likely to be far more effective if they are carried out in co-operation with provincial government changes. The major reason for this is that provincial governments automatically receive larger tax revenues whenever the federal government eliminates tax exemptions and deductions. If the full value of these programs is to be maintained for the social policy sector, it will be necessary for the provincial governments either to provide harmonized transfers or to cede some tax points back to the federal government in return for delivery of the income-transfer arrangements.

- Commissioners recommend, therefore, that these proposals be the subject of urgent and serious federal-provincial discussion. We urge the Government of Canada to introduce them to the

federal-provincial agenda at an early federal-provincial ministers' meeting and to move forward quickly towards implementation.

The UISP is not intended to provide fully adequate benefits for all Canadians who have no other earnings or income; it is primarily a supplementation program intended to compensate for the fact that there is often a considerable mismatch between earnings and needs. Commissioners therefore recommend that provincial governments continue to provide needs-tested social assistance as a top-up to UI and UISP benefits where these do not fully meet pertinent needs. The equivalent of the current provincial share of social assistance payments should be adequate for this purpose. In addition, provincial governments could reap a substantial increase in tax revenues from some of the tax changes which would accompany the inception of the UISP. It is desirable that these funds should also be used to support income-security programs; that arrangement would make provision of topping-up arrangements financially easy.

The UISP seems to Commissioners to be the essential building block for social security programs in the twenty-first century. Should governments not be able to implement it, a series of less complete reforms would at least ameliorate some of the worst features of the existing systems.

- Thus, failing the implementation of the UISP, Commissioners recommend:
 - Reform of the family benefits program to reduce or eliminate the child tax exemption and the family allowance program and to increase the child tax credit, which should also be made payable on a monthly basis
 - Reform of social assistance provisions of the Canada Assistance Plan to eliminate pre-emptive taxation of social assistance benefits as other income from employment, training allowances or similar sources is received. □

We wish to emphasize that these are partial reforms only, and that the more comprehensive UISP is a preferable choice.

Social Services

This Commission did not undertake an extensive review of Canada's social service programs. We did, however, receive many representations about them, and we did develop several recommendations.

- Commissioners support the continuing devolution of responsibility for delivering social services to the community level and to non-profit associations. We strongly recommend, however, that this devolution not be handicapped by a reduction in funding, and that governments retain sufficient staff to exercise their monitoring responsibilities. The maintenance of funding is particularly important, since we could see no evidence whatsoever that social services, which include support for children, the elderly, the

disabled and those with shorter-term social problems, are overfunded. Indeed, considerable evidence of underfunding was presented to us in our hearings.

- The major social services will also benefit from:
 - Further forms of assistance which will help users to become more self-reliant
 - Better integration of various forms of social and medical services at the community level.

Access to many social services in Canada is now impeded by the “needs-based” approach of the Canada Assistance Plan. Only those “in [financial] need or likely to become in need” have free access to services, so that many Canadians just above the poverty level are effectively precluded from receiving such important support as family, marital and financial counselling or child support services.

- This Commission recommends that the current federal-provincial financing arrangements be severed from social assistance financing and renegotiated to provide Canadians with broader access to these services.
- This Commission is not persuaded that extensive delegation of responsibility for social services to the profit-seeking part of the private sector is likely to improve significantly the services provided to Canadians. Where such privatization is practised, we recommend that it be done in the context of very careful government regulation of the provision of services. Profit maximization, in our view, is not always the best motive whereby to govern human transactions.

There are currently two major task forces working at the national level to review day care in Canada; therefore this Commission has not conducted research in this area. Commissioners do, however, wish to note that the current CAP day-care guidelines actually serve to make access to publicly supported day care quite difficult for middle-income Canadians and that the current \$2000 tax exemption for child-care expenses is much more valuable to upper-middle/class Canadians than to the majority of Canadian families. Both these provisions require reform.

- Finally, Commissioners wish to pay tribute to the hundreds of thousands of Canadians who work through the voluntary sector to help their fellow citizens. We recommend that all levels of government should continue to support and nurture such activity by providing fully adequate support and supervision for the programs dispensed through the voluntary sector. □

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